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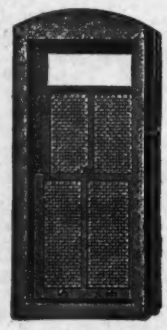

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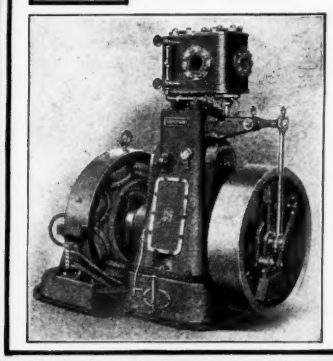

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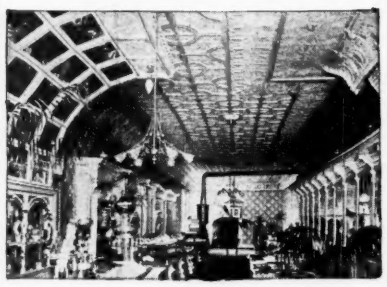

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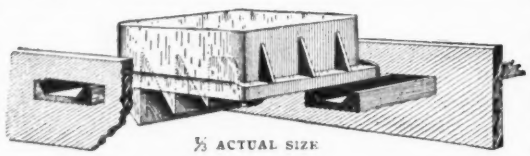

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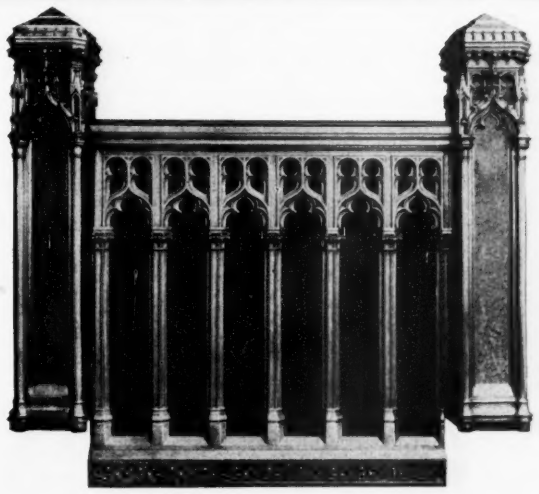

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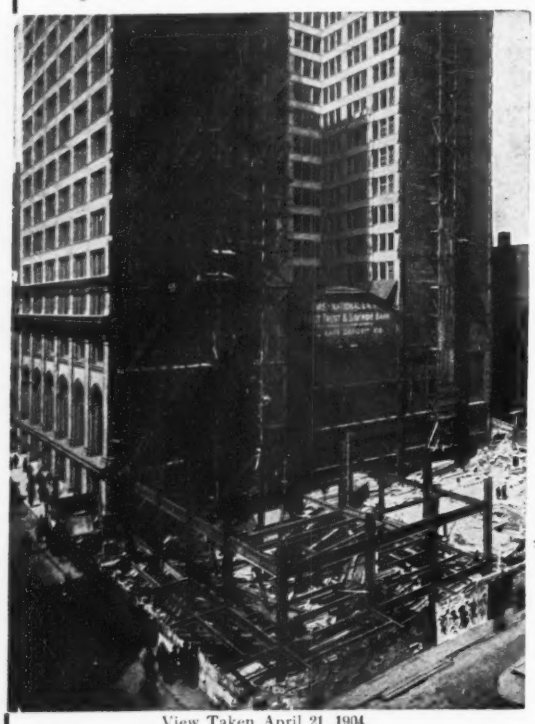

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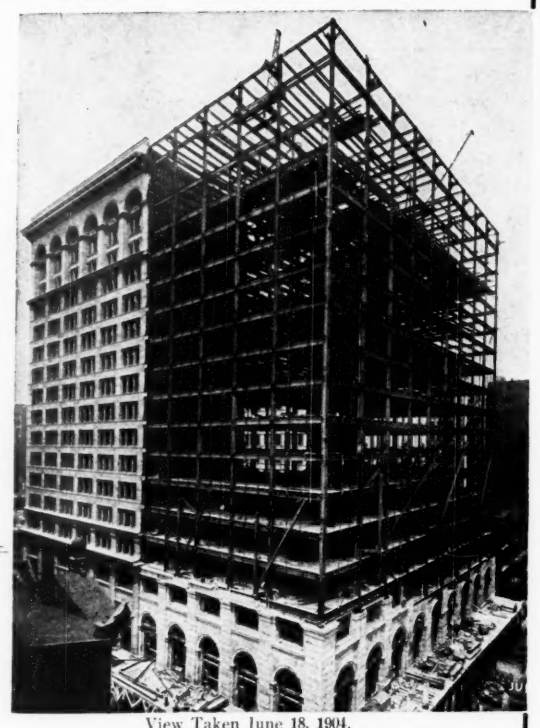

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VOL. XLVI. SEPTEMBER, 1905 NO. 2

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System in Architects' Offices

Keen competition is constantly forcing upon the attention of all business and professional men the value of a carefully prepared system in the conduct of their affairs. In the profession of architecture there are innumerable details that require attention and such record as will enable them to be quickly available. While of necessity all architects have a more or less complete system in their office organization, the proportion is probably small of those whose system is as thorough and efficient as it should be for the best results. There is much that might be done to advantage besides the usual gathering into scrap books with more or less method of illustrations, sketches, etc. It pays to give the utmost care to the classifying and indexing of all building data that it may be instantly at hand when wanted. Every architect will find it of much benefit to keep an "Information" book. A convenient size for such a book would be about 12x15 inches, and 1½ inches thick. It might be preferably of light weight tough white paper, ruled and substantially bound. A single page of such a book would usually be sufficient for a full record of an ordinary building, including drawings of the principal floor plans. If the business of the office is sufficiently extensive, it will be found convenient to have printed upon each page the heads showing fully the various items of information desired, a line or two to be left under each head for the filling in of the acquired facts. As such a book likely would be in constant use it would be best that all entries and drawings be in ink. There would properly be recorded, not only complete and detailed information of the work of an individual office, but all knowledge that could be obtained of any other building. For this purpose the collecting of books with description and plans of buildings, circulated for renting purposes, would be found useful. Many a client has been more firmly bound to his architect by finding him in possession for immediate reference of such facts as full information about a building whose design or plans offered suggestions for his own structure.

Awards in Chicago Court House Competition

In the illustration pages of this number will be found the designs awarded prizes in the competition for the Cook County court house at Chicago. The jury awarded the first prize, $5,000, to Barnett, Haynes & Barnett; second prize, $2,500, to Holabird & Roche; third prize, $1,000, to Shepley, Rutan & Coolidge. Thirteen designs were entered. The four invited architects who submitted designs were: Shepley, Rutan & Coolidge, Holabird & Roche, Frost & Granger and Huehl & Schmid. Each of the two latter firms received $1,000 toward the expense of drawings. All of the thirteen competitors except three were Chicago architects. It has been a matter of curious comment by the public that the design awarded first prize was numbered 13. The designs were of an unusually high average of merit and Barnett, Haynes & Barnett are to be congratulated upon securing first honors. The program issued to competitors reserved to the county board the right to select any architect desired and they unanimously decided upon Holabird & Roche as architects of the building. The competition was somewhat inauspiciously commenced as

the professional adviser first selected and three of the invited competitors declined their services on the ground that the compensation and terms were not strictly in accord with the code of the American Institute of Architects. The members of the Institute that entered the competition were nearly all located in Chicago and felt doubtless that in a building of this kind they were warranted in deciding how much of their commission they were willing to donate to the public cause. The reputation of the firm selected is such that a thoroughly satisfactory building architecturally is assured.

The Promise of American Architecture

Under this title has been issued a very attractive brochure commemorating the notable dinner given in connection with the last annual convention of the American Institute of Architects at Washington. The great significance and importance of the dinner is the occasion of the compilation of this handsome volume by Mr. Charles Moore, corresponding member A. I. A. It will be recalled that in addition to the members of the Institute there were in attendance President Roosevelt and the Secretary of State; prominent members of Congress and the Supreme Court; army and navy officers; the Ambassador of France; representatives of art societies; ecclesiastics; educators and financiers. In his introduction Mr. Moore indicates that a principal object of this noteworthy gathering was to foster two important objects: the improvement and beautifying of Washington and the federal buildings, and the establishment on a permanent basis of the American Academy at Rome. As known, the influence of the institute for several years has been exerted toward the furthering of both of these objects and much has been accomplished; the improvements are proceeding under the supervision of a competent advisory commission appointed by the President, and the million dollar fund for the Academy is practically provided. Several of the addresses recorded in this volume are a promise and foreshadowing of the accomplishment of these purposes. The work will be prized for the value of its contents and the beauty of its typography.

The Antiquity of Dew Ponds

A recent English book on the archæology of the Neolithic period gives some interesting information on a very practical subject. According to its author, our ancestors of seventy-five or a hundred thousand years ago seem to have lived mostly in the open country, subsisting on the milk and flesh of herds of cattle. As the process of chopping down a tree with a stone is a laborious one, they do not seem to have made extensive clearings, and, in a country mainly covered with forest, like most of Northern Europe, they were obliged, instead of leading a nomadic existence, like the tribes of the open plains of Asia, to establish permanent settlements, surrounded by a ditch and embankment, on which was probably formed a palisade, to keep out the wild beasts, which must have swarmed in the neighboring forests. The traces of these settlements, which are still to be seen, show that they were placed, in preference, on an elevated site, presumably for better supervision of the pasture lands around them; and in some of them are found large, shallow depressions, evidently artificial, the use of which did not seem clear. If they had been deeper, they might, perhaps, have served for cisterns, to collect rainwater in situations where wells could not be dug with the tools then available; but, even in the moist climate of England, a cistern, without the aid of a roof, or other collecting surface, would not accumulate water enough to make up the loss from evaporation; so that it would be dry in summer; and our author suggests that the depressions may have been "dew ponds." In explanation of this, he says that there is, to this day, at least one gang in England of men whose business it is to construct "dew ponds" for farmers who need a more ample and certain supply of water than they have previously possessed.

To form a dew pond, a considerable area, much larger than the surface which it is expected to cover with water, is excavated, so as to form a shallow basin, which is then filled with straw. On top of the straw is spread a layer of clay, which is well worked and "puddled" so as to render it as impervious as possible, and is carried well out over the edge of the basin, so that air cannot circulate under it; and the operation is finished by covering the clay with stones. Water soon begins to collect under the straw, in the middle of the depression, and accumulates until a comparatively ample supply, of the purest quality, is always available at the opening provided for reaching it. This curious phenomenon is said to be due to the operation, on a large scale, of the laws governing the formation of dew. At night, when the sky is cloudless, there is, as we are taught, rapid "radiation" from the surface of the ground, which cools it so much that the water dissolved in the air in contact with it is deposited, in the form of dewdrops, on all suitable objects. In the dew ponds, radiation takes place from the surface of the clay covering, assisted, probably, by the unevenness of the stones strewed over the top; and, as the clay is a comparatively good conductor, the lower surface of the stratum is cooled to a temperature below that of the air in contact with it. The moisture present in this air is, therefore, to a certain extent condensed into drops of water, which fall through the straw to the bottom of the basin. They are prevented from evaporating when the sun rises by the layer of clay over them, and the following night finds the air under the clay more moist than before. In this way the condensed water, or dew, gradually accumulates, until a permanent reserve is formed.

It seems a little curious to go back for help in our economic troubles to our naked ancestors of the Stone age, but one can hardly help thinking that "dew ponds" of the sort described might solve many of the problems which architects, as well as farmers, have to deal with. Cisterns, as every architect knows, are unreliable, and the water in them, if collected from roofs, is often of very doubtful quality; while the "dew pond" collects water more rapidly in dry than in cloudy weather, on account of the greater activity of the radiation; and, in many localities in the Southwest, and on the Pacific coast, where cisterns are not to be thought of, it is not impossible that dew ponds on a large scale, might prove of great utility. Architects, as a rule, are reluctant to try experiments at the expense of their clients, and the aid of the Government, or of some great railway or other corporation, would probably be required for the thorough investigation of this method of collecting and storing water; but architects would, at least, watch with great interest any inquiry into what may be a question of the gravest importance.

SANITARY ENGINEERING IN THE MODERN OFFICE BUILDING*

BY J. PICKERING PUTNAM, ARCHITECT

PART II

Let us now consider in detail the various changes in our plumbing laws which we have suggested and show the manner in which our conclusions as to their necessity in the interest of safety and simplicity have been reached, and how they may readily be tested by any one for himself.

The first improvement recommended was the discontinuance of the usual requirement for the "back venting" of traps. We shall endeavor to make clear that the use of the back vent pipe ought to be prohibited rather than prescribed by law. Its requirement is pernicious legislation in the interest of a few at the expense of the many, and is an enforcement at an outrageous and totally useless cost to the public of conditions which are as unsanitary and unscientific as are possible in plumbing work. On the other hand, this law prohibits the employment of simple and rational means of fulfilling the requirements with entire safety and admirable simplicity.

Our drawings, Figs. 1 and 2, show the bad and the good systems side by side in such a manner as to be easily intelligible to any one.

Of the several objections to "back venting" now beginning to be familiar to all students of the subject, there are half a dozen which are self evident, and require no experimental demonstration. There are, however, also two others which are not so easily understood, but which require proof, involving the use of actual plumbing work or suitable apparatus before they can be fully accepted by the layman in face of the opposition of common practice, formal legislation and the pressure of private interest.

The self evident objections are (1) the destruction of the water seal of the trap produced by the air current brought near it by the "back vent" pipe. (2) The loss of effectiveness of the back vent pipe produced by grease accumulation. (3) The loss of the same through sagging and vapor condensation and also through rust and general sediment collection. (4) The loss of effectiveness through collection of snow and frost. (5) The increased opportunities for defective jointing and leakage, and the danger of such leakage escaping detection because the back vent pipes are not flushed by water. (6) The increased cost and complication it occasions.

The objections requiring demonstration with the aid of some form of apparatus are: (1) The loss of effectiveness of the back vent pipe due to friction. (2) The uselessness of back venting for trap seal protection against siphonage, especially when compared with simpler means discovered since the trap vent laws were enacted and now well known to experts.

Regarding the self evident objections, it is perfectly clear, for instance, that back venting involves the lowering of the trap seal by evaporation, because the mouth of the vent pipe must be placed near the crown of the trap in order to protect the seal from self siphonage. So placed the induced air current must of necessity lick up the water seal below it with a speed proportional to the efficiency with which it performs its duty as a ventilator. Under certain conditions frequently encountered in plumbing work it may easily destroy the seal of an ordinary small S trap in from four days to a week, according to the rapidity and dryness of the current. It is only necessary to place an ordinary tea cup full of water in a draught of air (Fig. 3) to convince oneself of the speed with which this action may progress. The air current in a back vent pipe may at times be quite rapid, and at places near the intake it may be as dry as the outer air of the street, especially in houses which are temporarily unoccupied for any reason, as is the case for instance with winter residences which are closed in summer during the absence of the owners at the seashore or other summer resorts or for foreign travel; or with summer cottages which are closed during the winter. The same applies to school houses, theaters and all other buildings which are periodically closed for the vacation season; to the unrented rooms in office buildings, hotels and apartment houses, or to "spare" rooms in ordinary dwellings; and, in short, to any places which are closed in whole or in part for repairs or for any other reason. In all these cases the evaporation of trap seals due to back venting goes steadily on without replenishment, and it is evident that drain pipe air may very soon begin to enter such houses or rooms after the occupants have left. So serious has this been considered by health officers that soon after the enactment of the back vent law they published in the newspapers in the interest of the public the following warning: "The Commissioners of Health desire to direct the attention of householders to the danger of occupying houses which have been for any considerable time without occupants. It is the practice of many persons to leave their dwellings for several months in the summer, during which time the water in the traps of basins and other fixtures is liable to evaporate, and thus permit the unobstructed entrance of sewer gas into the dwellings. When the families return in the fall they are exposed to these sewer emanations, and it is believed that cases of serious, if not indeed fatal, sickness have been due to this cause. Whenever houses are so left provision should be made to have the traps filled at least every two weeks by a competent and trustworthy plumber, and if possible to have all the windows of the house opened for twenty-four hours before its re-occupation."

Now, if the Commissioner of Health had published advice to the householders to employ some competent and trustworthy plumber to cork up or tear out once and for all from their houses all these incompetent and untrustworthy back vent pipes which were responsible for the trap seal evaporation instead of raiding the premises every fortnight to try to repair in a measure the mischief they had done, he would have performed a really valuable service to the alarmed and unhappy absentees on their summer vacations, and have reassured the much suffering public at large at the same time.

While it is evident that back venting must gradually destroy the seal it was commissioned to protect, it is also evident, as an examination of our figures 1 and 2 will make clear, that an ordinary "pot" or "drum" trap of

* For figures 1 and 2 mentioned see July number.

large water capacity is capable of preserving its seal against loss by evaporation almost indefinitely if *unvented.*

In the former case a current of air is constantly in motion over the seal when the vent pipe actually performs the office for which it was installed, and it carries off vapor from the trap seal as fast as it rises, and moreover the water supply in the seal of an ordinary S trap is absurdly small. In the latter case there is no such current and the reservoir is very large. Such a trap will easily preserve its seal a year or more without replenishing.

One may easily test this by filling a large lead pot or drum trap five or six inches in diameter with water, Fig. 3, and placing it somewhere in the room where it

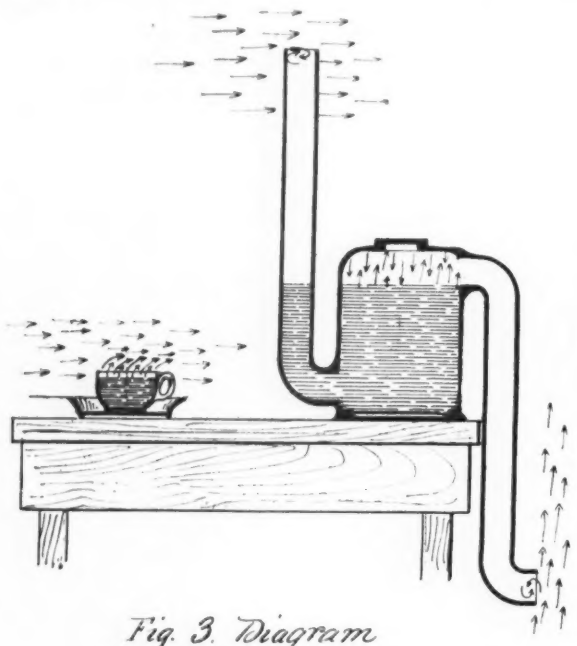


Fig. 3. Diagram illustrating the Air Movements above the Water Seal of a Back Vented S Trap, and of a Non Vented Antisiphon Trap The Former quickly losing, and the Latter indefinitely retaining its Seal

may be conveniently examined from day to day, the inlet and outlet arms being, say, 16 inches long each, which would be the minimum length found in practice, and left open at their ends. No appreciable loss of seal will be observable from day to day. It would be evident a priori that this would be so, since it is clear that the vapor rising from the water surface can only condense on the top of the trap and fall back into the seal, there being no current of dry air to carry it off, the diffusion of gases through the pipes being too slow to effect appreciable change in a day.

In my experiments on evaporation, made for the Boston City Board of Health, I found an average loss of one-eighth of an inch per day in the seal of a one and one-fourth inch S trap, having a seal four and five-eighths inches deep, when the vent pipe was taken from the crown of the trap and entered a cold ventilating flue. The experiments were made on the plumbing piping of a five-story office building in actual use. No artificial heat was applied to the flue. The velocity of the movement of the current of air in the flue was measured by an anemometer. We found the loss averaged an eighth of an inch per diem. It amounted to about a quarter of an inch the first day and gradually diminished as the level of the water descended in the trap, and the distance of its surface from the ventilating current increased, to a little less than an eighth of an inch per diem.

Hence an ordinary S trap having an inch and a half or an inch and three-quarters seal might lose the whole of this seal in from nine to eleven days under ordinary conditions.

The experiments were repeated several times at different parts of the year from the middle of December to the middle of May with substantially the same results.

A number of experiments were then made on S traps unventilated, but open at both ends. The loss of water was almost inappreciable, not exceeding one thirty-second or one-sixteenth of an inch in ten days. We next experimented with a heated ventilating flue, and in these experiments found a very rapid reduction of the seal per diem. The average loss exceeded one-third of an inch per diem. The largest loss in a day was seven-eighths of an inch. The smallest one-eighth.

Another series of experiments was made with an ordinary one and one-half inch S trap having a seal one and a half inches deep. The trap was connected with the heated flue at a point three inches below the crown. Numerous tests were made. The loss of seal was slower than in the former tests because of the distance of the mouth of the vent pipe from the top of the water seal. The rate of evaporation, however, in these tests averaged one-seventh of an inch a day, the greatest loss in any one day being three-eighths of an inch.

In all these experiments on evaporation it was found to make no material difference in the results whether the fixture end of the trap was open or closed, showing that the evaporation at this point was inappreciable.

In the experiments with the cold ventilating flue the anemometer recorded an average rate of movement of the ventilating current of ninety-four feet per minute in the first tests. In the second the average was eighty-five feet per minute, and in the third 109 feet. The velocity of the current during the cold months of the year was quite uniform. In the summer months, however, it was exceedingly variable, sometimes equalling that of the cold season and sometimes ceasing altogether or retrograding. In the cold months the rate of evaporation remained quite uniform in spite of considerable barometric fluctuation and change of velocity.

The inlet at the end of the soil pipe system, where the fresh air was taken in to produce the ventilating current above the trap, was distant as much as sixty or seventy feet from the traps tested, so that the air was obliged to traverse a considerable length of damp soil pipe, the greater part being nearly horizontal on its way to the trap, and it may therefore be assumed that it was conducted over as large an area of moist surface as it would ordinarily encounter in practice. The velocity was also the same as is very usual in ordinary practice. Moreover, the results of our experiments in this direction correspond with the experience of many sanitary engineers, health inspectors and plumbers, who have had occasion since the enactment of the trap vent laws in various parts of the country to observe the effect of this provision in lowering the seals of traps.

[To be continued.]

MUNICIPAL IMPROVEMENTS

BY ALBERT KELSEY, ARCHITECT

PART III—THE PLAN

The crystallization of the city plan is first of all a mental process. When the mental process is deficient the physical plan that follows is deficient, and the whole rotten fabric, with its dark blind alleys, with its rail, wire and other elevated entanglements, with its billboards, poles, other defacements, sooner or later, become nothing more than a loathsome agglomeration utterly unfit for habitation. Such ugly, foul and festering accretions should not be allowed. They may be prevented in new communities and remedied in old communities, but in either case a long look into the future is necessary to effect a permanent cure.

Such a look has been taken by Ebenezer Howard, and in his widely circulated book, "Garden Cities of Tomorrow," he starts the planning of the ideal city on the following premises. He argues, "Whatever may have been the causes which have operated in the past, and are operating now, to draw the people into the cities, those causes may all be summed up as 'attractions,' and it is obvious, therefore, that no remedy can possibly be effective which will not present to the people, or at least to a considerable portion of them, greater 'attractions' than our cities now possess, so that the force of the old 'attractions' shall be overcome by the force of new 'attractions' which are to be created.

"Each city may be regarded as a magnet, each person as a needle, and so viewed it is at once seen that nothing short of the discovery of a method for constructing magnets of yet greater power than our cities possess can be effective for redistributing the population in a spontaneous and healthy manner."

He goes on to demand of the ideal community that it shall "make the prospects of advancement for the average man and woman equal, not to say superior to those enjoyed in large cities," and evolves a plan ("the garden city") in which rural and industrial areas will alternate to insure social advantages to the farmer, pastoral environments for the industrial masses; and, lastly, he contends that a wise and economical administration will offer every inhabitant advantages now only enjoyed by a favored few.

Mr. Howard has organized a Garden City Company with many prominent men on its board, including Mr. George Radbury, whose well known industrial settlement adjoining his works has proven to be a great success, and moreover, on July 25 of this year the Duke of Devonshire opened "the cheap cottage exhibition" at Letchworth, thirty miles north of London, on land owned by this company.

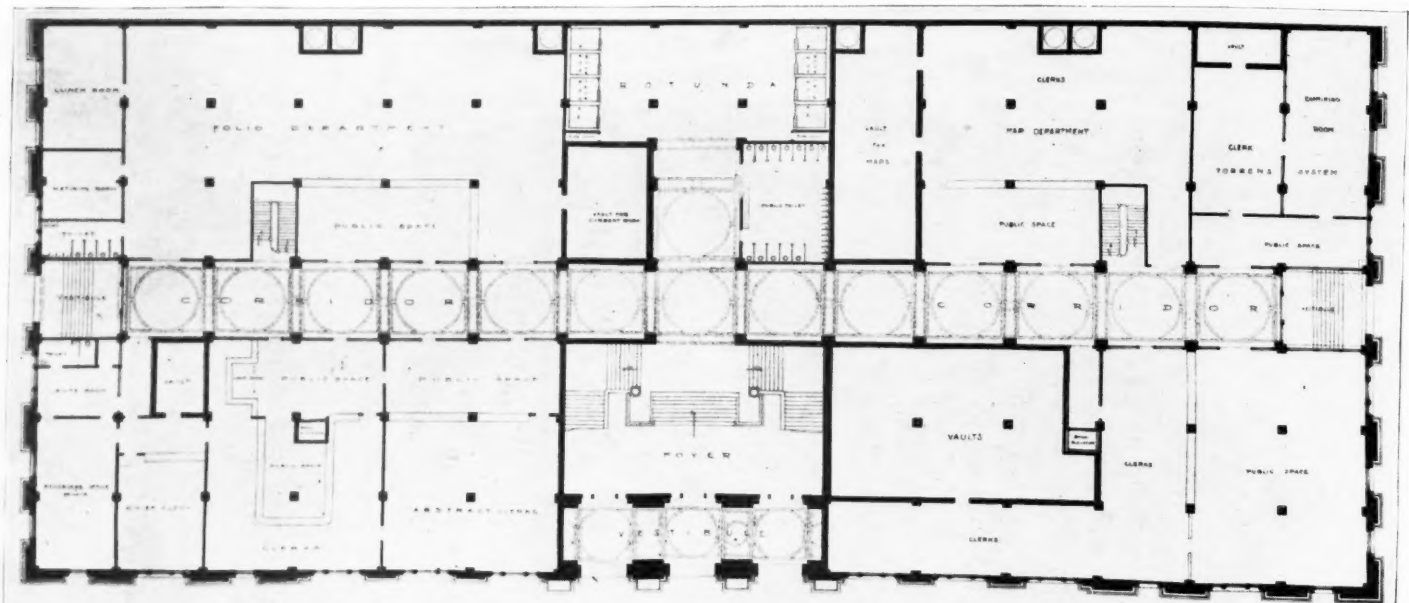
Is this not sound?

It is merely an English sociologist's dream to be sure, but much of the stuff his dream is made of may be found in Haussman's executed work; for it was he who began the countryfying of cities. Our own metropolitan park system promises to carry the idea a step further, while Mr. Howard's ideas may have stimulated the vacant lot cultivation movement. However, this may be, his book and his efforts to establish a type of city love entirely on humanitarian lines is a step in the right direction. It is with ideas like his that one should start to plan.

Of course, it is not to be expected that great cities shall ever become great agricultural producers, but on inspection of the existing sewage farms of Berlin will convince any one of the shameful waste going on upon our unoccupied suburban lands, which, in many cases, might be made to yield abundant crops.

Such extremes of luxury and squalor as one sees in and about New York are unmistakable signs of social rottenness. Happily in making an American of Jacob Rees, Danish persistency has already made a wholesome impress upon the map of the metropolis—for the wiping out of Mulberry Bend and the appropriation of a million dollars a year for the opening up of other small breathing spots in congested neighborhoods are reforms directly traceable to earnest agitation he carried on through years of discouragement. By way of contrasting the old and the new order of things visit either end of Brooklyn bridge. Note the jungle of iron columns, choking and glutting the thoroughfare and the disgraceful riot of advertisements. Then pass through the lowest and the filthiest part of the East Side, through the cross-currents of New York's sweltering Jewish slums, and behold the vast clearing which has been made to form a dignified and spacious park—like approach to the new Manhattan bridge—sometimes flippantly referred to as the Jewish passover. Here is a bold and unerring example of the right way to proceed, and it has been carried out so far with rare intelligence. Hundreds of filthy tenements for ten or fifteen blocks have been demolished to make room for this much needed breathing spot, which incidentally becomes a noble thoroughfare. Nor is this the only fine example, on a large scale, New York is setting the country. The redeeming of 'goat town,' now the beautiful Riverside Drive district, was an act of self respect that means more to the reputation of New York than all her millionaires' palaces put together.

In the first chapter reference was made to the admirable arrangements that have been made to perfect the designing of all future bridges, and here attention should be called again to other public works that have at last been entrusted to architects of the first rank—such as bath houses, recreation piers, public gymnasiums, park shelters, and even some small parks are now being executed in New York in permanent and costly materials, on monumental lines and in a manner comparing favorably with the best work of this kind abroad. But commendable as all this is it does not illustrate the more comprehensive civic scheme. To understand this idea by applying it to New York the reader is referred to an excellent article in a recent number of Scribner's Magazine entitled "The Plan of New York and How to Improve It," by Ernest Flagg, in which he refers to the present gridiron plan by saying that it "has been adhered to with a fidelity worthy of better results," and goes on to say: "If the planners had only followed the simplest dictates of common prudence and provided a broad open strip along each water front and another through the center of the island to insure ample means of



FIRST FLOOR PLAN

FIRST PRIZE DESIGN, COOK COUNTY C

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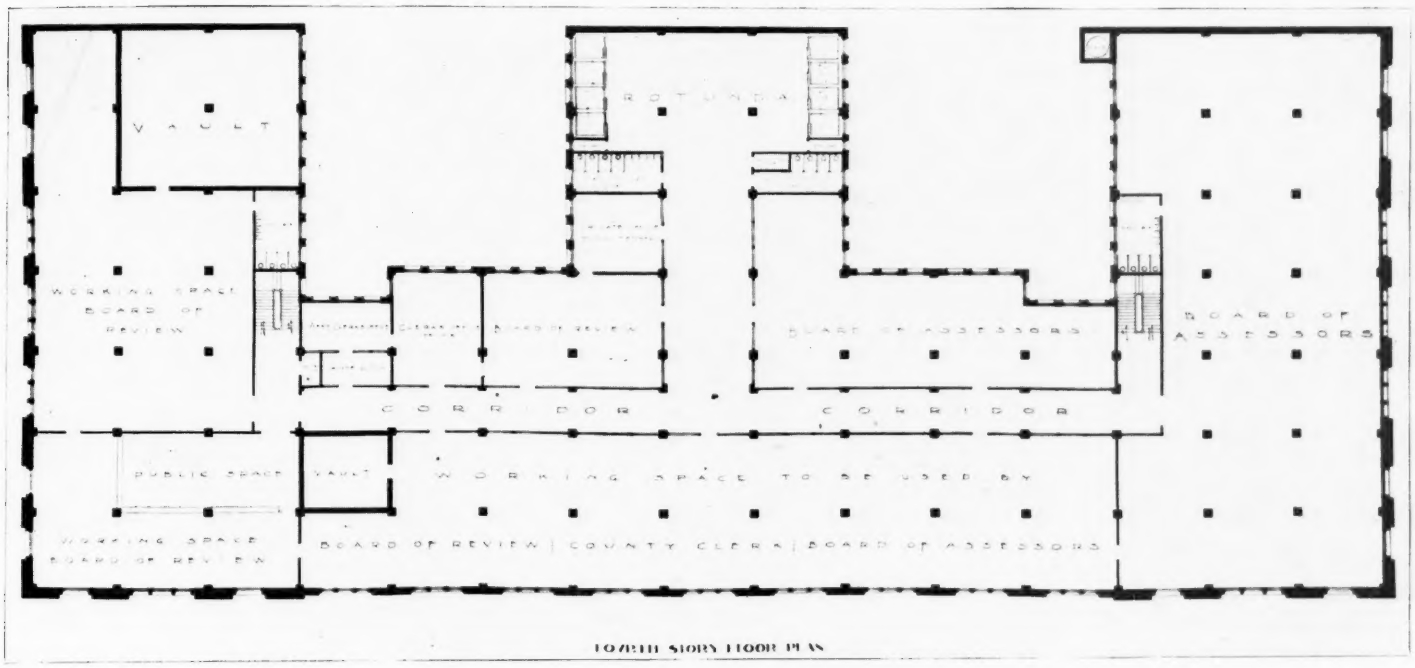

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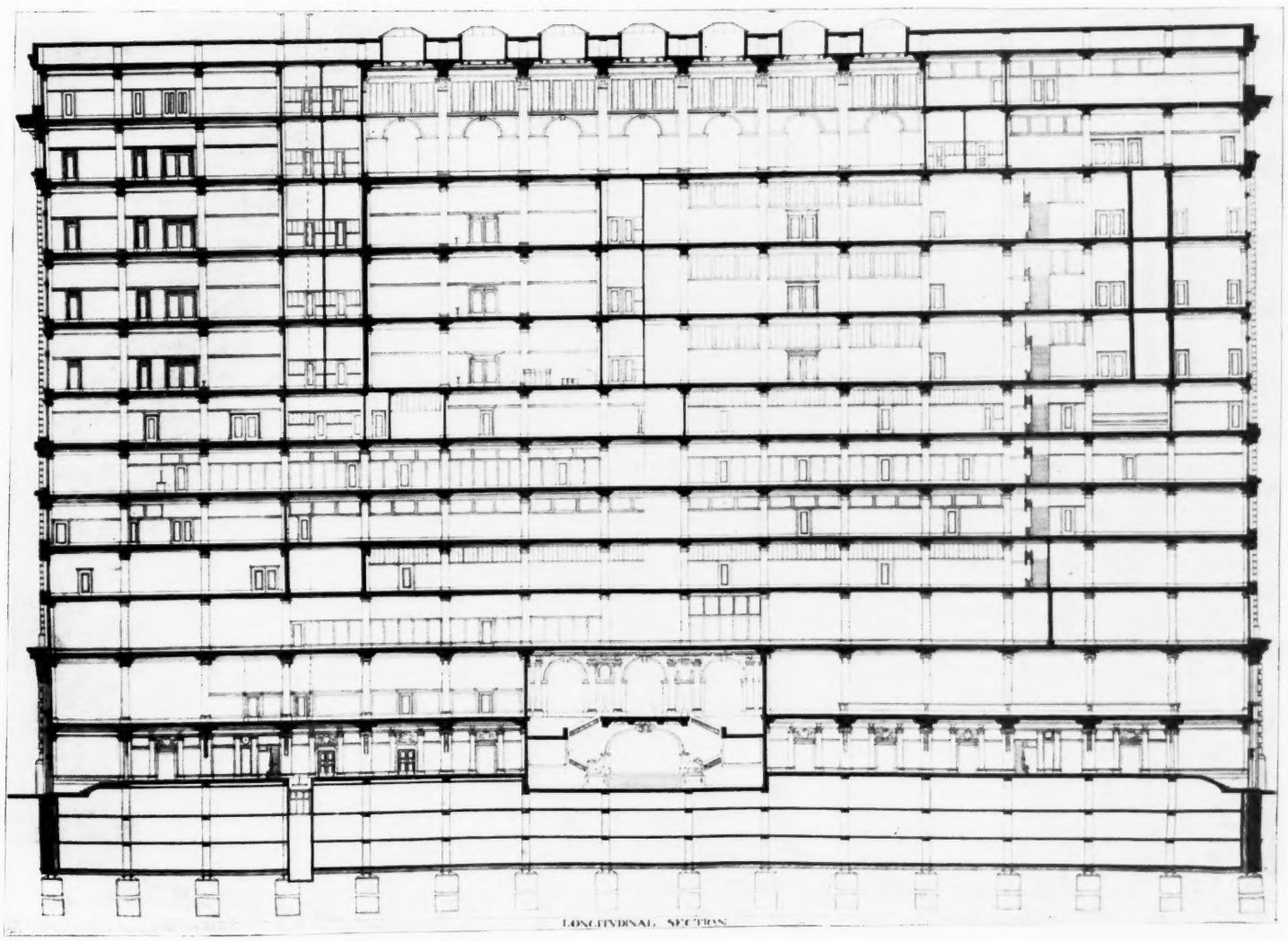

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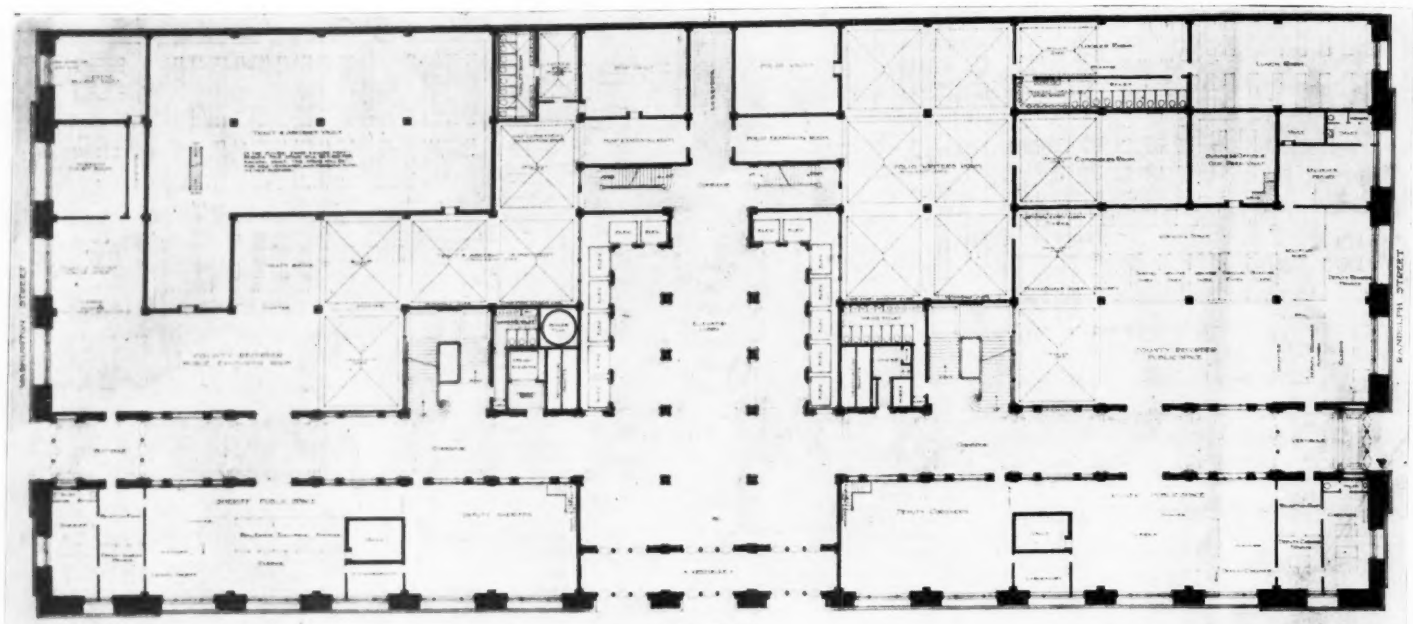
OOK COUNTY COURT HOUSE, CHICAGO.

AYNES & BARNETT, ARCHITECTS.

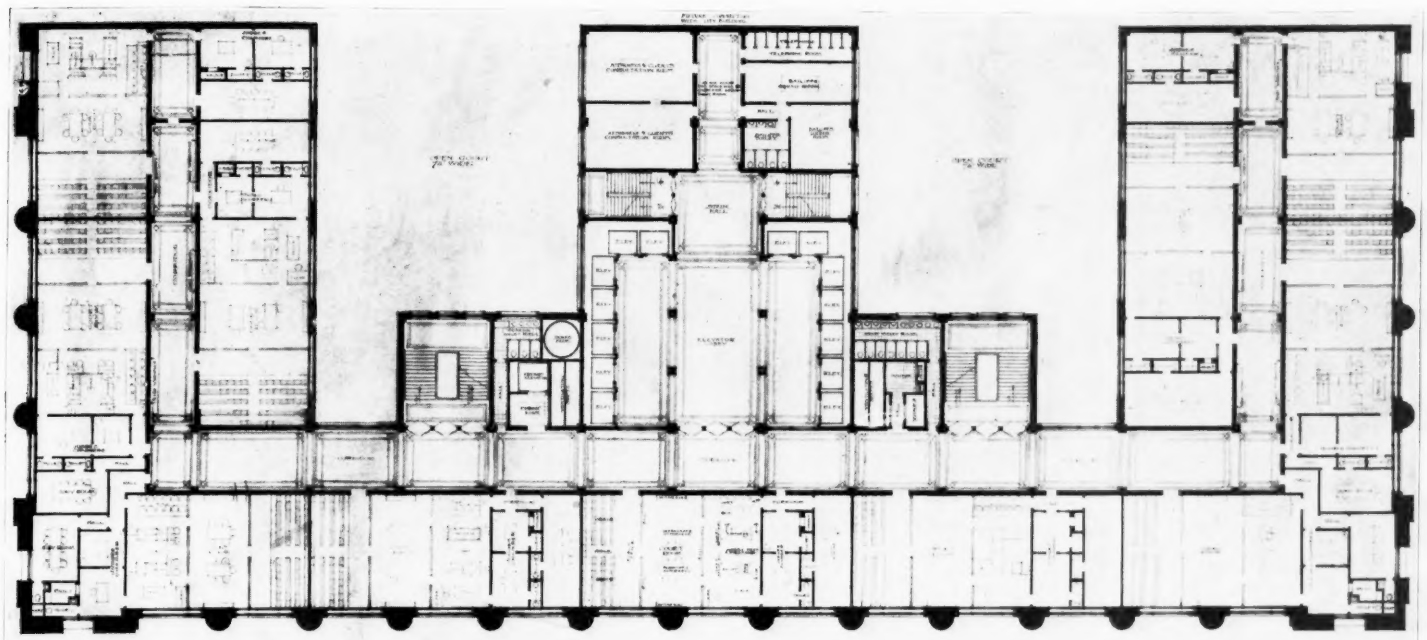


FIRST FLOOR PLAN

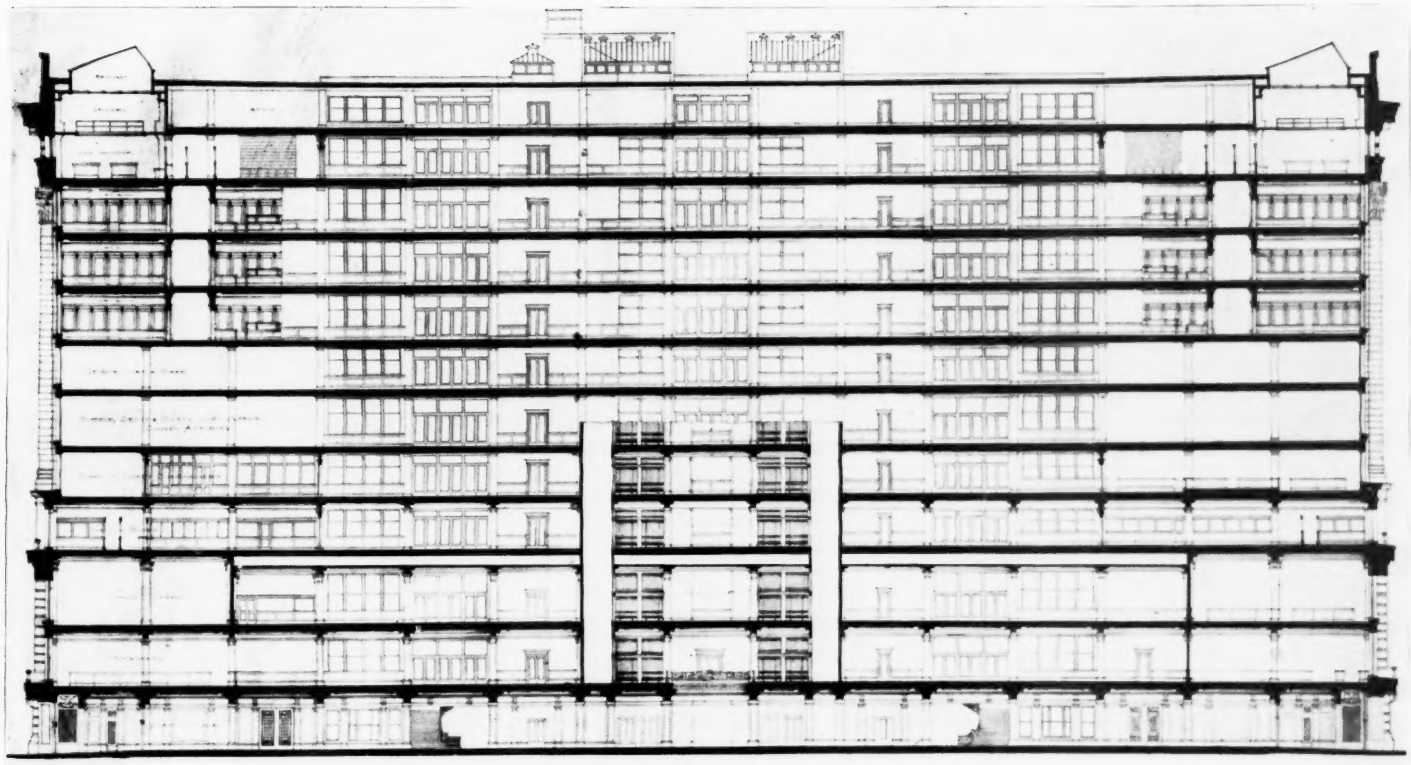
PERSPECTIVE

SECOND PRIZE DESIGN, COMPETITION FOR COOK

SUBMITTED BY HOLABIRD & ROCHE, ARCHITECTS WHO WERE



EIGHTH, NINTH, AND TENTH FLOOR PLAN

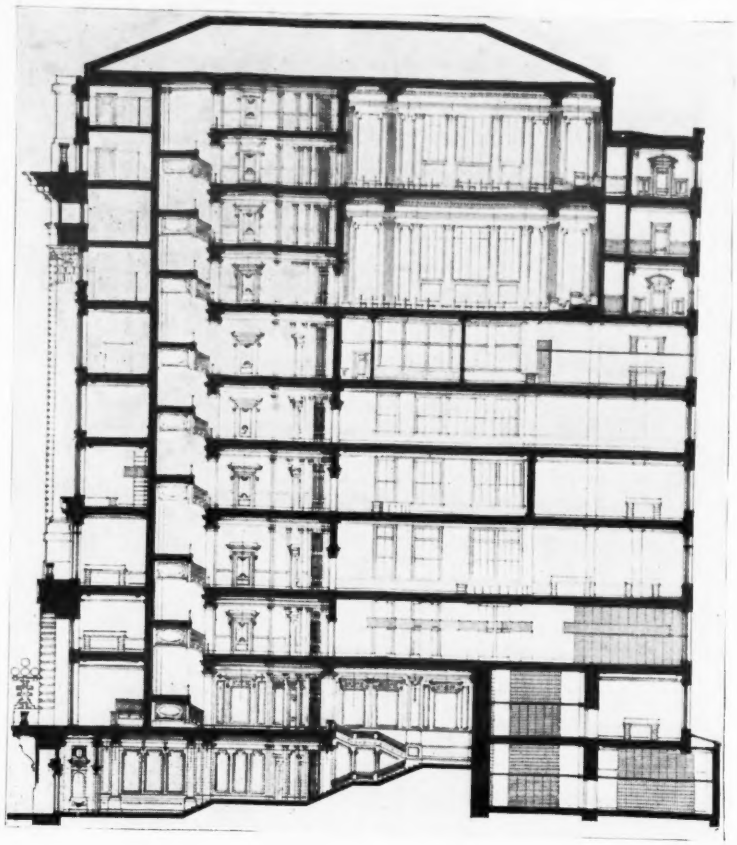


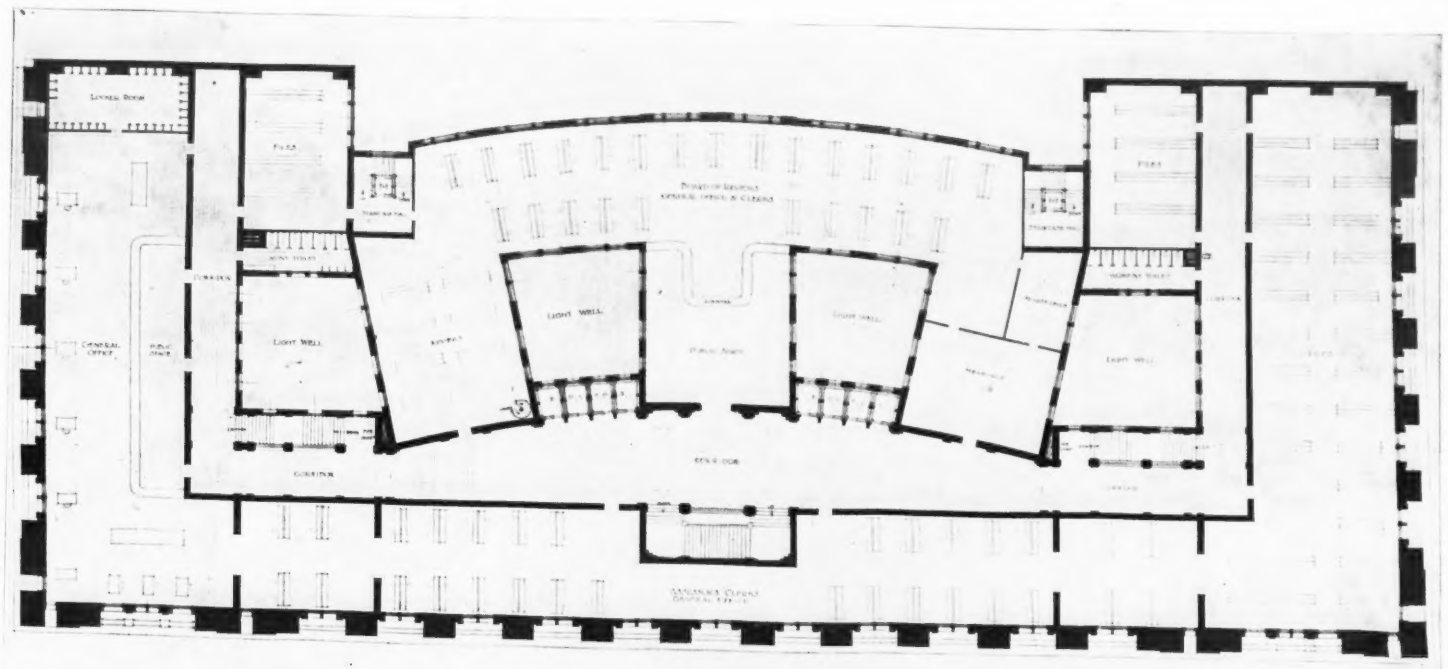
SCALE ONE INCH EQUALS EIGHT FEET.

LONGITUDINAL SECTION

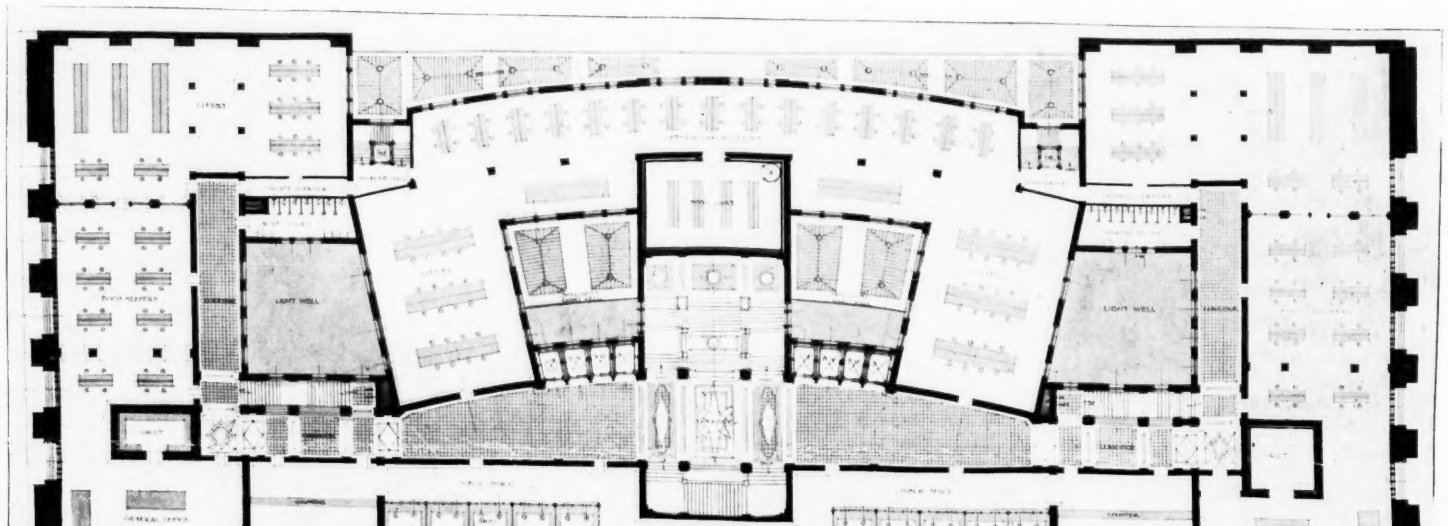
ON FOR COOK COUNTY COURT HOUSE, CHICAGO.

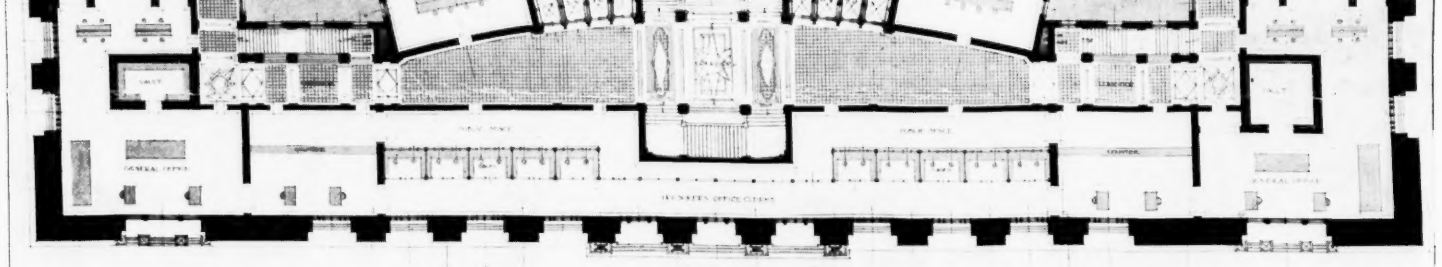
ITECTS WHO WERE SELECTED ARCHITECTS OF THE BUILDING.



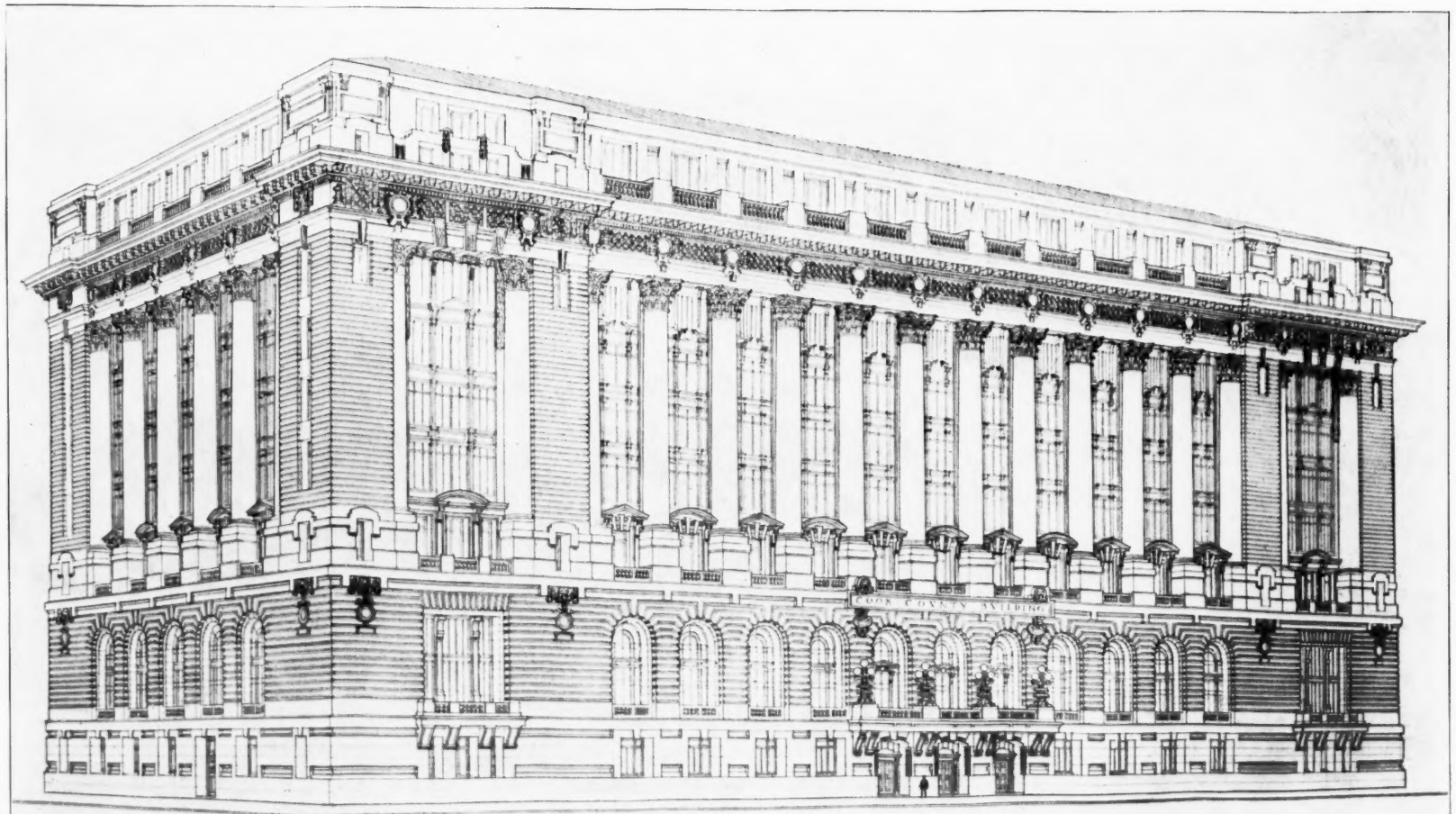


COMPETITION FOR COURT-HOUSE TO BE ERECTED BY COOK COUNTY, IN CHICAGO, ILL.
THIRD FLOOR PLAN 8 FEET TO THE INCH.



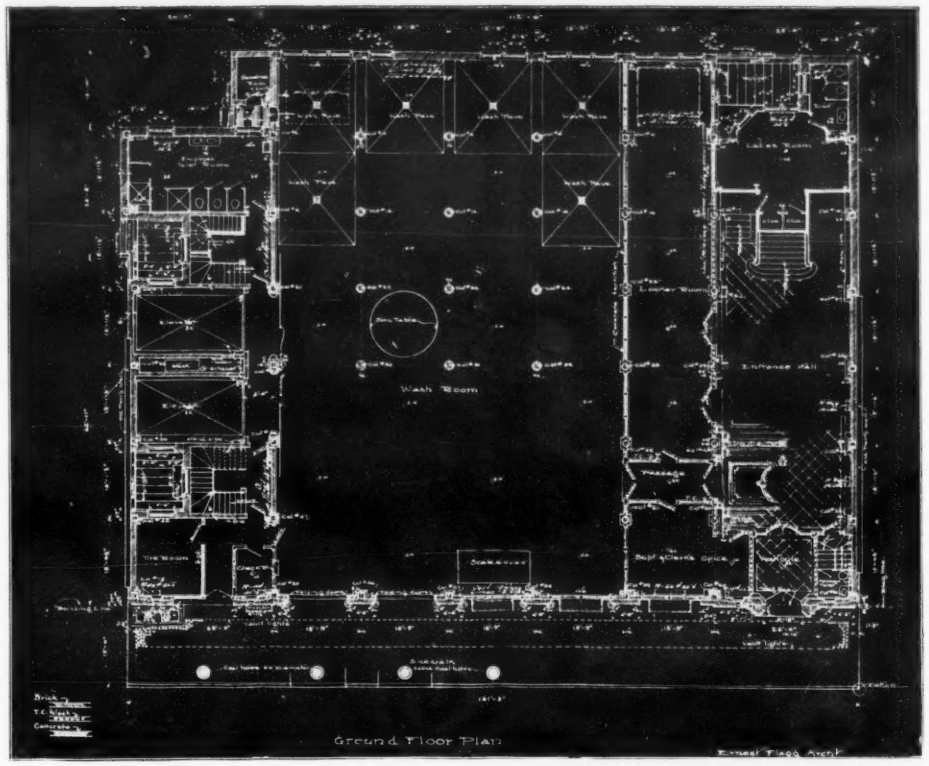


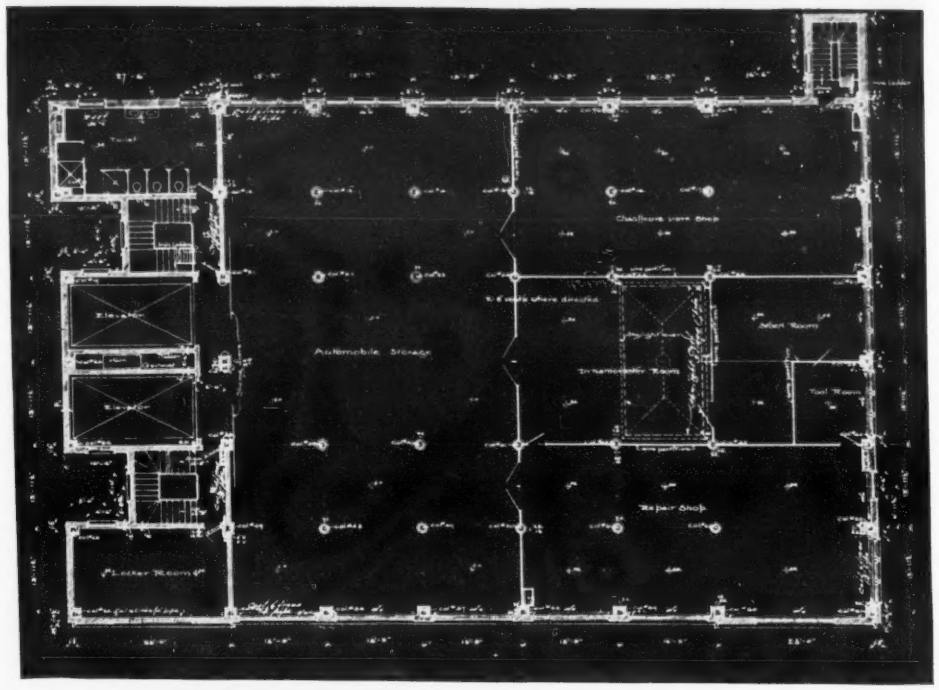
COMPETITION FOR COURT-HOUSE TO BE ERECTED BY COOK COUNTY, IN CHICAGO, ILL.
FIRST FLOOR PLAN ● FEET TO THE INCH.



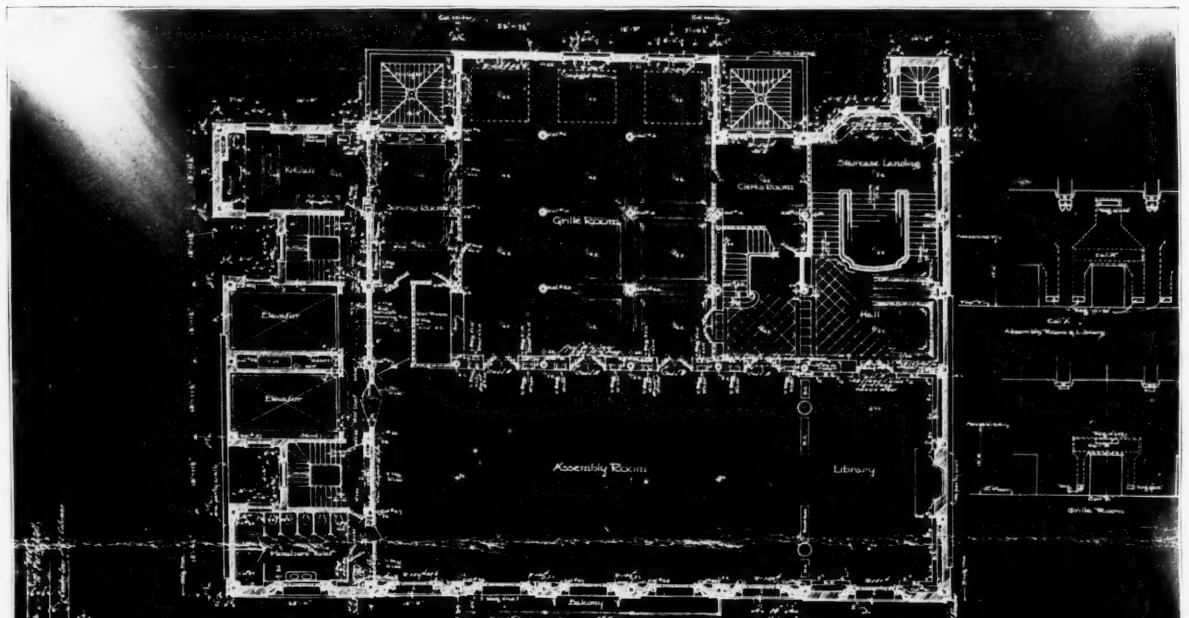
COMPETITION FOR COURT HOUSE TO BE ERECTED BY COOK COUNTY, IN CHICAGO, ILL.

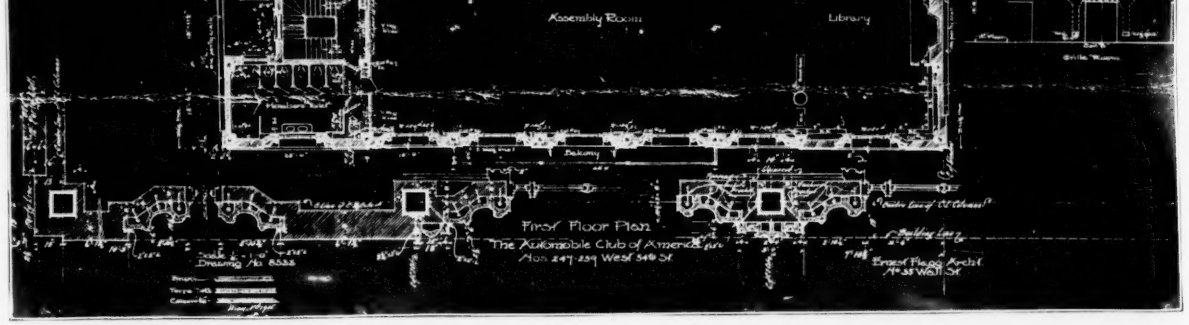
THIRD PRIZE DESIGN, COOK COUNTY COURT HOUSE, CHICAGO.
SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

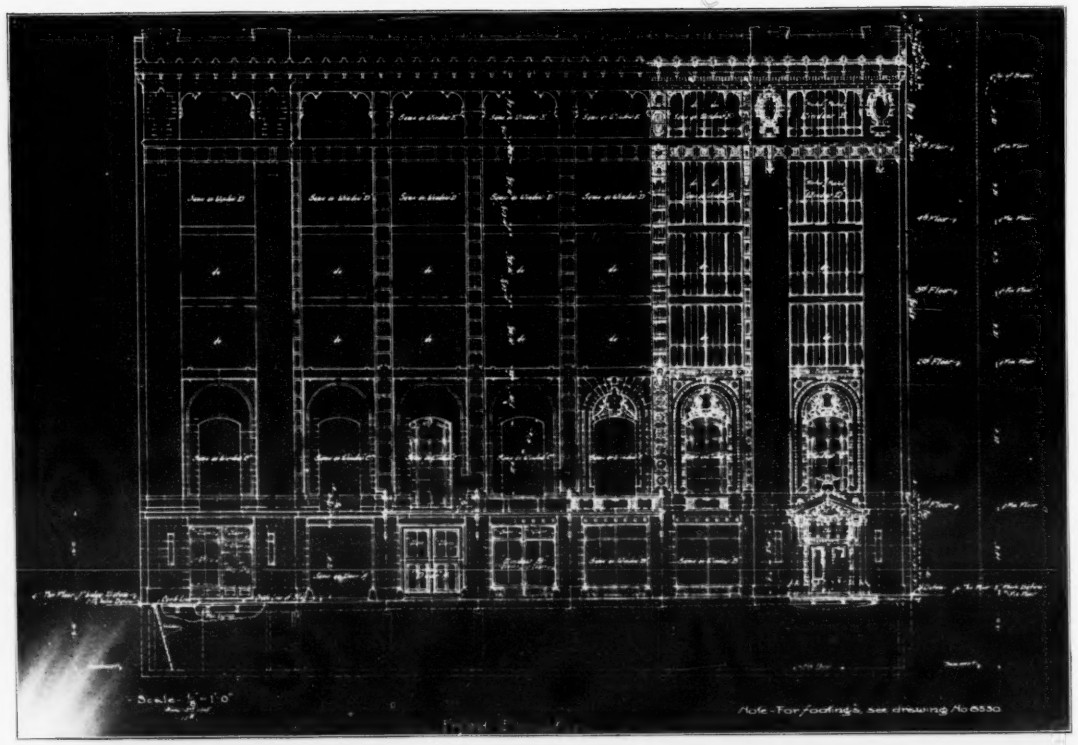




Fifth Floor Plan.





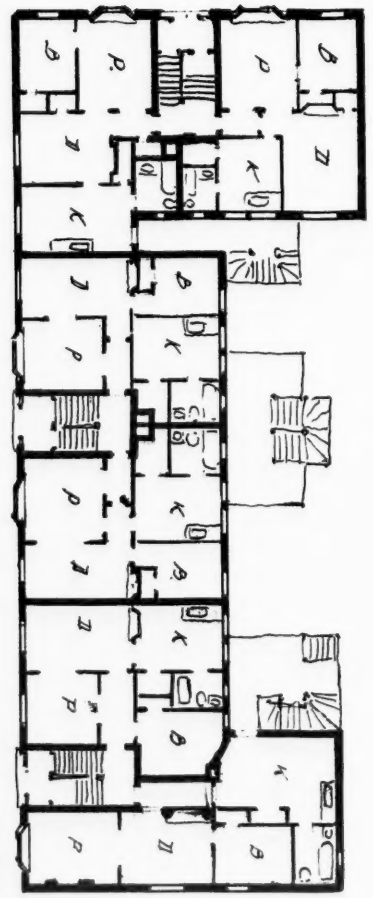


THE AUTOMOBILE CLUB OF AMERICA, NEW YORK.

ERNEST FLAGG, ARCHITECT.

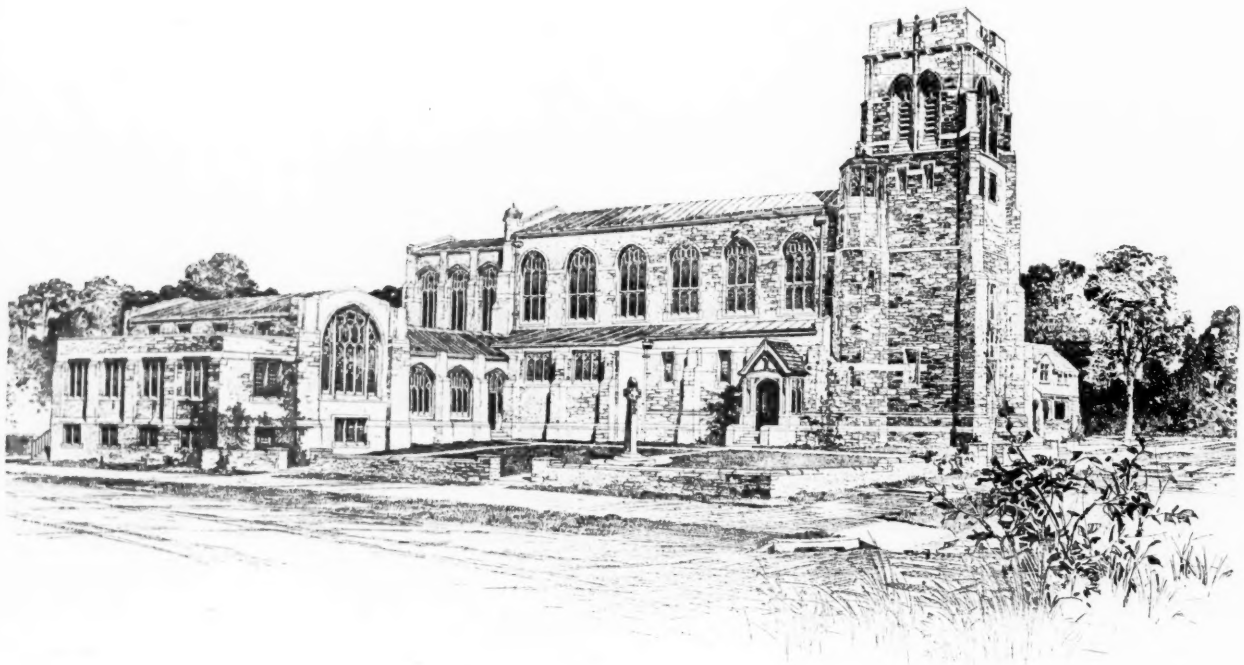
STABLE FOR E. H. THOMPSON, KANSAS CITY, MO.

ALBERT TURNEY, ARCHITECT.



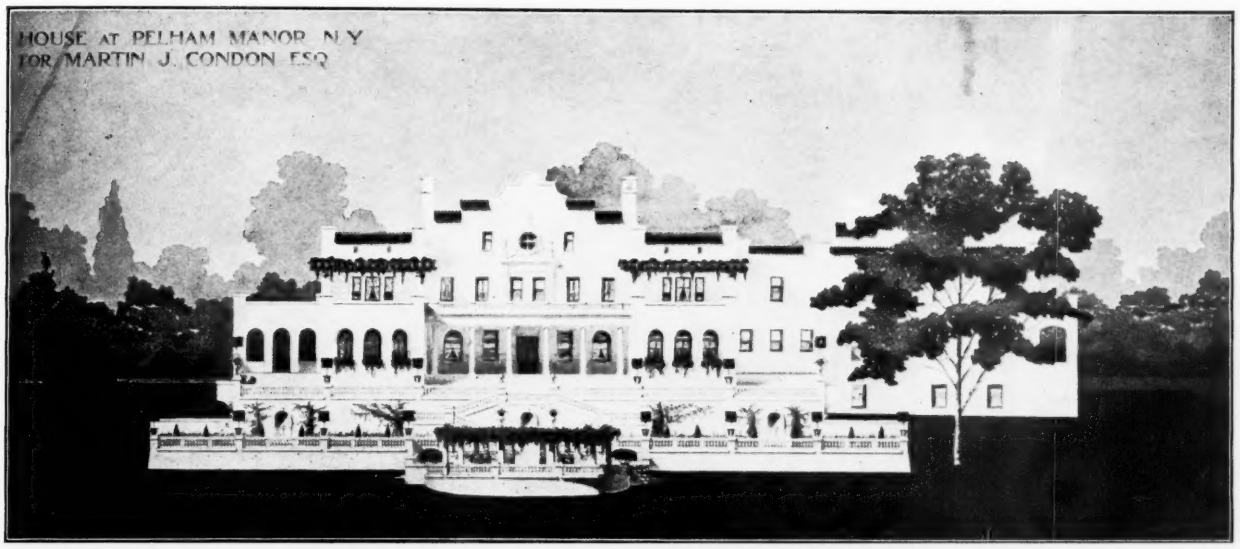
THE HOFFMANN APARTMENT BUILDING, CHICAGO.

TURNOCK & OHRENSTEIN, ARCHITECTS.



EPISCOPAL CHURCH, BAY RIDGE, BROOKLYN, CRAM, GOODHUE & FERGUSON, ARCHITECTS.

CHURCH, FAIRMOUNT, N. Y., GILLESPIE & CARREL, ARCHITECTS, NEW YORK.



HOUSE, PELHAM MANOR, N. Y., LITTLE & O'CONNOR, ARCHITECTS.

SKETCH, HOUSE AT "LITTLE ORCHARD FARM," WILSON EYRE, ARCHITECT.

HOUSE AT QUOQUE, L. I., WILSON EYRE, ARCHITECT.

TION OF 1905, BROOKLYN CHAPTER, A. I. A.

OFFICE BUILDING FOR CHICAGO & NORTH-WESTERN RAILWAY CO., CHICAGO.
FROST & GRANGER, ARCHITECTS.

ENTRANCE DETAIL.

OFFICE BUILDING, CHICAGO AND NORTHWESTERN RAILWAY CO., CHICAGO.

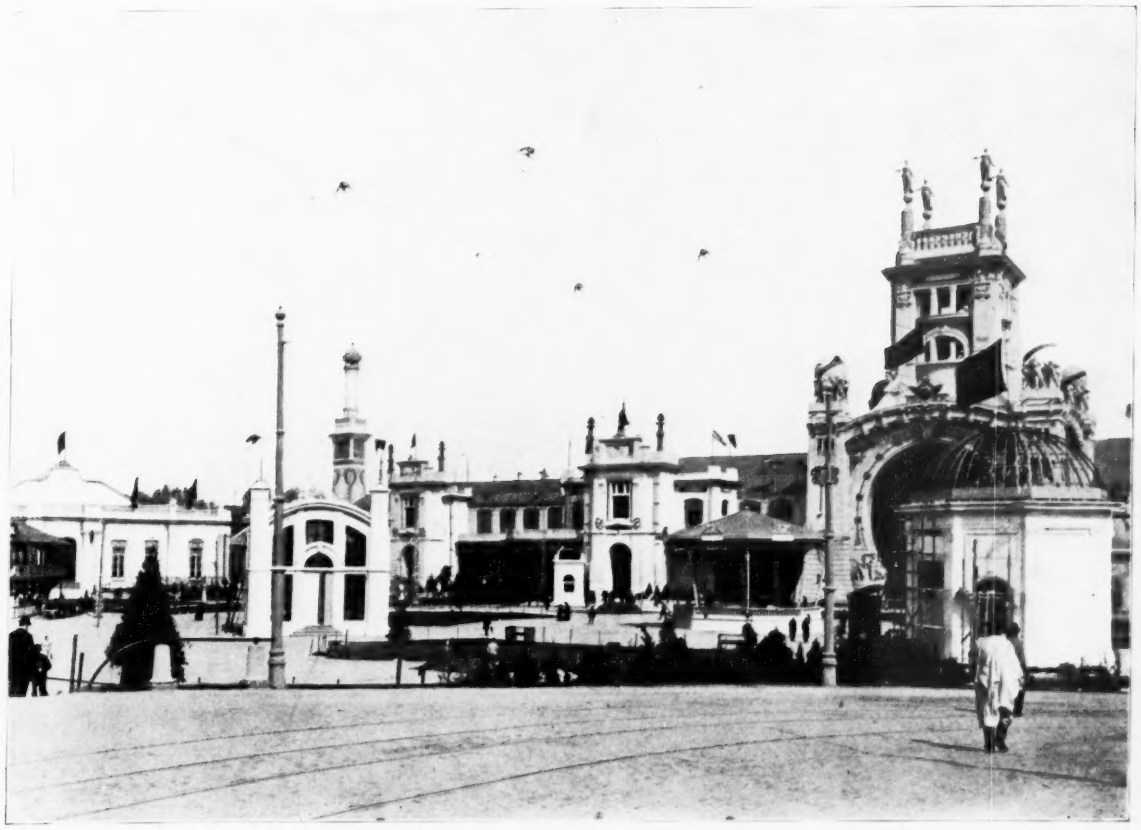
FROST & GRANGER, ARCHITECTS.

W. B. Mundie, Architect.

THE PATRICK HENRY SCHOOL, CHICAGO.

W. B. MUNDIE, ARCHITECT.

PALACE OF TUNIS.



MONUMENTAL ENTRANCE GROUP.

BUILDINGS, INTERNATIONAL EXPOSITION, LIEGE, BELGIUM.

VIEW IN HALL, RESIDENCE MR. HASTERLIK, CHICAGO.
HENRY L. NEWHOUSE, ARCHITECT.

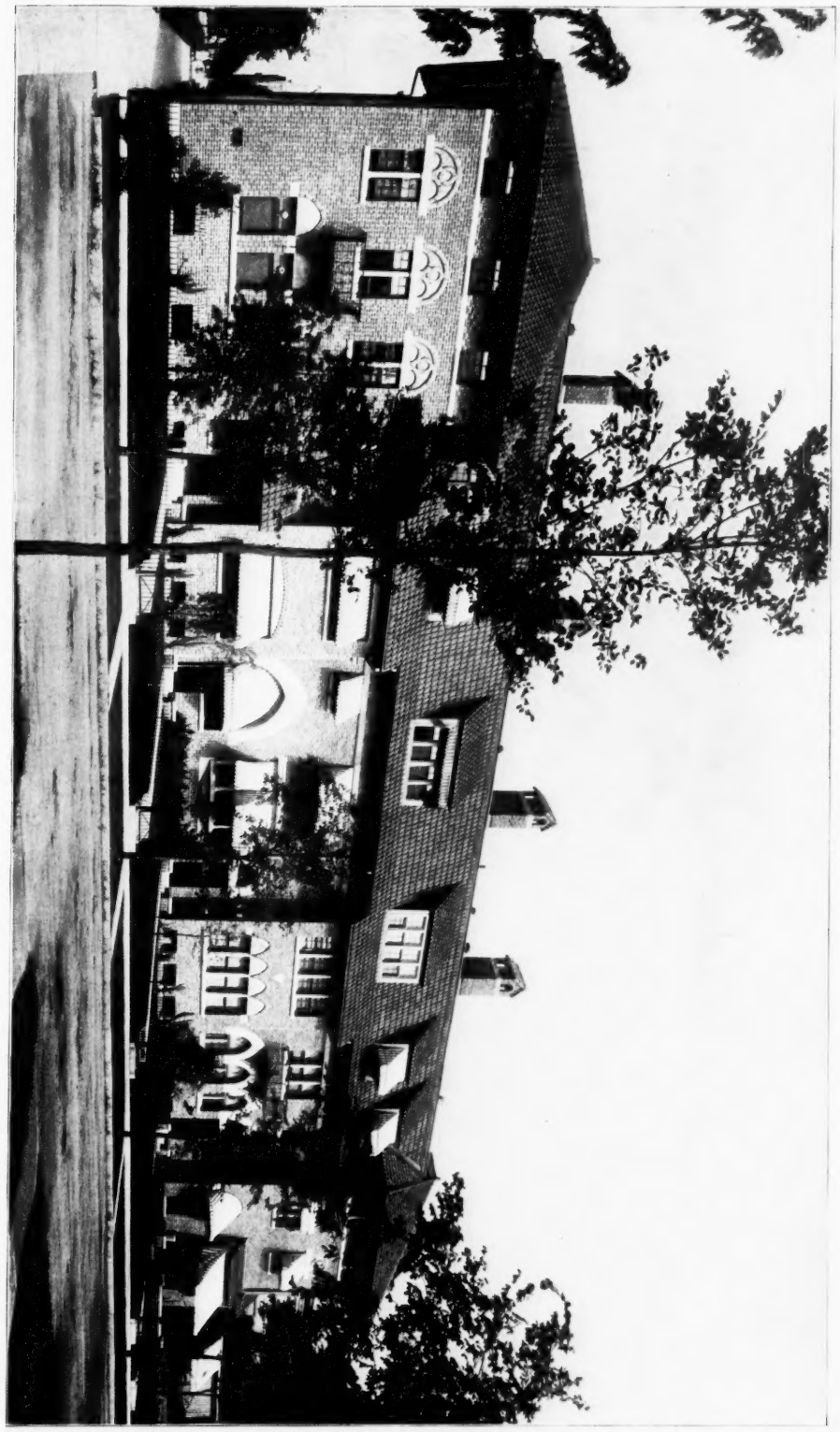
PALACE OF FETES.

PALACE OF BEAUX ARTS.

BUILDINGS, INTERNATIONAL EXPOSITION, LIEGE, BELGIUM.

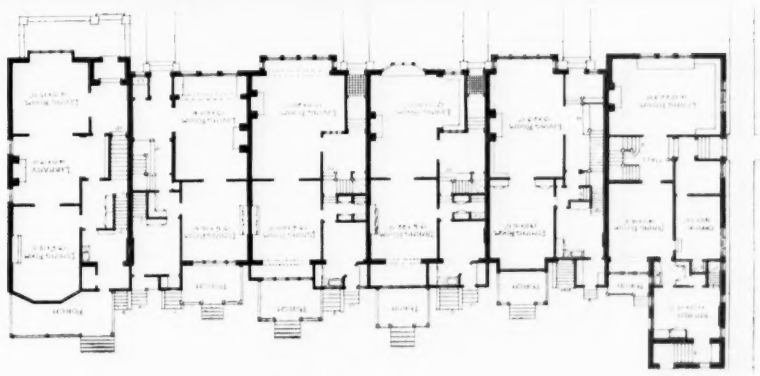
INTERIOR VIEW, RESIDENCE, M. A. MORTON, CHICAGO.

HENRY L. NEWHOUSE, ARCHITECT.



ROW OF RESIDENCES, MONROE AVE. AND FIFTY-SIXTH ST., CHICAGO.

MANN, MACNEILLE & LINDEBERG, ARCHITECTS, NEW YORK AND CHICAGO.



transit, the other failings of the plan might have been forgiven; for even with this much—so great are the natural advantages of the site—New York could have become one of the most beautiful and commodious cities on earth."

Following out the idea hinted at above he proposes the narrowing and lengthening of Central Park as the remedy.

A year ago Mayor McClellan appointed a commission to report on the plan of Greater New York and how to improve it. Mr. Whitney Warren was made chairman, and under his direction some drawings of much interest were prepared. In them a better means of communication between Manhattan and Brooklyn than now exists was made the chief consideration, while the two new railway terminals now building on Manhattan Island logically came next in importance. This subject will be referred to at greater length in a forthcoming chapter entitled "Terminals."

One point on the northern outskirts of the densely built up part of Karlsruhe suggests an ideal method for civic extension. From this point a group of buildings extends along the sides of a V-shaped park radiating at an angle of about 45 degrees, so that one standing in the center window of the central building is able to look across the fan-shaped park down nine city streets by only turning his head slightly from right to left. Conversely this building becomes a conspicuous object of interest from a considerable distance along nine different thoroughfares.

Let us establish points of this kind in our unpromising suburbs. With a public school building for the focal point, and a branch library building on one side and a police station and fire department building on the other, and a start will be made about which property may reasonably be expected to improve. The school may be the only building needed, but provide sites for two others while the land is yet cheap. What could be more democratic than this method of development? Schools are needed in every quarter, and in providing them why not provide a sufficiency of open space for other secular buildings, and above all, why not give them sites in proportion to their importance in the community? The idea commends itself for still another reason. It would minimize conflicting rivalries. Parkways now are often projected for the benefit of one neighborhood without any compensating advantages being provided for others, but under this suggestion every outlying school district in turn would play its part in modernizing the city, and instead of becoming more and more unwieldy with increasing size the city would become more and more easily managed and more and more desirable as a place of residence.

The civic-center idea adopted by Chicago also offers an admirable point of departure for reorganizing a suburban street plan on radial lines.

Madison, Wis., of all the cities the writer is at all acquainted with in the United States, has the greatest geographical and topographical opportunities. Like Constantinople, it dominates two great sheets of water and stands high. This will be again referred to in a paper entitled "Capital Cities."

Cities enjoying such natural advantages should be planned with a view to scenic effect. Convenience of arrangement and the beauty inherent in a good plan is heightened by such opportunities. Distant landscape features may often add much to the character of a town, while the treatment of grades and water fronts at once reflects the quality of intelligence and the character of its inhabitants. At least this is so in the United States, where the people may direct these things if they will.

Complex and apparently conflicting problems arise with every attempt to better a city's plan, but if our people would only stop to think they would at once see that the most revolutionary improvements are no more drastic than what our railways are doing all the time. And if private corporations can plow through cities, bringing noise, dirt and confusion with them, why it is more difficult for a city to cut new streets which will as inevitably bring orderliness, cleanliness and verdure?

If the people will only realize that they rule, and not the corporations, the reorganization of our cities will no longer appear to be such gigantic problems and we may then expect to have adequate streets and squares, engirdling parkways and other public reservations worthy of our opportunities and equal to all modern requirements. To obtain them, however, even where opposition is slight and natural conditions are favorable, requires long and patient study by experts and is not to be obtained by acting upon the tentative recommendation of the ordinary city engineer. Why intelligent men sanction vast expenditures for public works without obtaining expert advice when they make it a rule to consult their attorney on all trivial matters concerning their private business is a matter that often must be laid up to contemptuous indifference, if not to actual dishonesty. As an example of both indifference and dishonesty, happily frustrated by an honest mayor, attention is called to a recent Philadelphia ordinance authorizing the placing of 150 new streets, only thirty feet wide, from building line to building line, on the city's plan!

It is often thus that our cities plan themselves, and some glory in the result!

[To be continued.]

YEAR BOOK, SCHOOL OF ARCHITECTURE, COLUMBIA UNIVERSITY.

The Year Book for 1905 has been published by the Architectural Society. The opening illustration is a full page portrait of Charles Follen McKim, to whom the volume is appropriately dedicated in the words: "In grateful recognition of his liberal support of and active interest in, the Columbia School of Architecture." A statement is made of the plan for the reorganization of the school with the object of broadening the scope. Two courses are provided; one conferring the degree of Bachelor of Science of Architecture; the other a Certificate in Architecture. Both require from three to five years for completion. Mention has been made in these columns of the three studios for the study of design maintained by the school. In addition three private *ateliers* have an authorized connection with the school. The illustrations in the year book include drawings submitted in the McKim Fellowship Competition; drawings by the holder of the Columbia Traveling Scholarship of 1902, and drawings required by the various stages of the school courses. In the last class the variety of problems treated is naturally large, ranging from details to public and monumental work. The skill displayed throughout evinces in a high degree the efficiency of the instruction of the school. The illustrations and typography of the book are very attractive.

RECENT IMPROVEMENTS IN BUILDING

BY T. M. CLARK, ARCHITECT

PART III

It is perhaps in Europe that the American best learns to appreciate the advances that have been made in his own country within the past few years in those details of interior fitting and construction which have so much to do with the health and comfort of the occupants of a building. So far as drainage systems are concerned, the average traveller is probably not sufficiently informed to be able to compare intelligently the stacks of eight-inch earthenware pipes, or the conduits of battered sheet lead which do duty for soil pipes in English and continental hotels, with the lines of neat and strong iron pipe universally employed in this country; but there are few American tourists who, after enjoying what is called in Italian hotels a "grand bath," which is taken, after waiting half an hour or so for its preparation, in a sort of marble sarcophagus, lined for the reception of the bather with clean sheets, in order that his skin may not be rubbed off by contact with the stone, do not think with regret of the pure white porcelain or enameled baths of their own homes, which, for cleanliness and comfort, are far superior to any tub that was ever hollowed out of Carrara marble.

Although the so-called "porcelain," or rather earthenware, bath tubs have been in use in England and in this country for about twenty years, their cost, for a long time after their first introduction, was so great, ranging from $400 to $600 or more, that none but the rich could afford to use them, and even the rich had to use them with circumspection, as their weight was enormous and many bath room floors were incapable of supporting them with safety. At that time, however, there was nothing else to be had which possessed anything like the same qualities, and those who were unable to use them contented themselves in this country with tubs lined with tinned copper, the lead-lined baths of the English never having found much acceptance here. It must be acknowledged that the copper lined bath tub was not without certain advantages. It was light, durable and clean, and, the mass of metal being small, it had very little cooling effect upon the water in it, while the porcelain tubs of that day absorbed so much heat from the water that it was not easy to get a comfortably warm bath in them with the ordinary dwelling house system of heating water by the range fire. So serious was this difficulty that, in the houses of very wealthy people, tubs were sometimes lined with sheet silver, which, like copper, had the advantage of absorbing very little heat from the water, while it was not liable to the discoloration to which copper baths were subject. Very few householders, however, could afford silver bath tubs, and inventors set themselves at work to devise something which should have the advantages of the solid porcelain tub without its disadvantages, and should be less expensive.

The first promising novelty of the kind put on the market was the fiber tub, made of compressed wood fiber, lined with a thick coating of enamel paint. These baths were light, not very expensive, in comparison with those of solid porcelain, and so attractive in appearance that the manufacturers were overwhelmed with orders, and thousands were soon in use. Unfortunately, while they served an excellent purpose with cold water, they proved incapable, notwithstanding the guarantee of the manufacturers, of resisting the action of hot water, and in a year or two disappeared from the market, to be succeeded by a copper bath set in a galvanized iron frame, which had some excellent points.

Meanwhile, the manufacture of plumbers' earthenware had been introduced into this country, and another manufacture, that of enameled iron goods, which had long been practiced on a small scale, was taken up and developed. To a considerable extent these two manufactures competed with each other; and, in both of them such rapid advances were made that whereas twenty years ago practically all the plumbers' earthenware in use in this country was imported from England, the American potteries now send immense quantities of their goods, of a quality far superior to that of the best English ware of twenty years ago, to all parts of the world; while enameled baths and lavatories which, twenty years ago, no one in any country thought it possible to make, are now sent from America to every civilized region.

As there was a pressing demand for a thoroughly satisfactory bath tub at an expense within reasonable limits, the manufacturers of enameled ware devoted themselves seriously, from the first, to the problem of producing such a tub and soon succeeded. The enameling of a bath tub is said to involve standing beside it and sprinkling it by hand while at a bright red heat with the powdered enameling material, so that courage and endurance, as well as skill, are required on the part of the workmen; and it was years before the enamel could be relied upon not to crack or chip; but the difficulties have been, one by one, overcome, and the manufacture systematized until an enameled bath of admirable quality can be bought for one-third of what a less perfect one would have cost fifteen years ago, and one-tenth of what was demanded at that time for an English porcelain bath.

While the American manufacturers of enameled iron were bringing their goods to this unprecedented perfection, the American potters were not idle. They, too, soon produced porcelain baths lighter and better than the English ones at one-third the price, and improvements in them are still in progress; but it is in connection with smaller articles that their successful ingenuity has been, perhaps, most conspicuous. Twenty years ago, while the English potters could make a reasonably good wash basin, so large a piece of earthenware as a water closet basin seemed to them, apparently, beyond the efficient control of human intelligence, and, while they hoped that the glaze on these larger articles would not "craze," or crack and fall off, they would not, as a rule, warrant it to stay in place even on their most expensive closets, and it seldom behaved any better than they expected it to. As soon as the manufacture had become well established in this country the problem of preventing the crazing of the glaze was taken up with characteristic American energy. One pottery alone is said to have spent more than one hundred thousand dollars in experimenting before it succeeded in produc-

ing the semi-vitrified ware known as "vitreous china," which is now made by all the principal potteries, and can not possibly craze, the glaze being a part of the substance of the ware, produced by burning at so high a temperature as to cause incipient melting, and not a varnish of easily fusible material spread over the surface of the clay. The superiority of this "vitreous china" was immediately recognized by architects, and, in response to their demands, it has, where strength and durability are required, already to a great extent superseded the ordinary ware.

Besides the tubs of solid porcelain, enameled iron and copper, baths may now be had of glass, transparent and of a pleasant sea-green color, but time will be required to show whether such large masses of glass can be annealed so thoroughly as to resist the sudden deluge of boiling water to which they would be liable in hotels and apartment houses.

So far as the essentials of piping and trapping are concerned, the American plumbing practice of fifteen or twenty years ago has not been materially modified. The pipes used are stronger and better made, joints are more carefully looked after and testing is much more searching and thorough than ever before, at the same time that plumbing work is simplified. Twenty years ago it was the boast of many house owners that they had "set bowls," supplied with hot and cold water, in every bed room. Now, while bath rooms are multiplied, bed rooms rarely have any plumbing in them in private houses, and even in the newest and most fashionable hotels those bed rooms which do not have private bath rooms, separately ventilated, attached to them, are often supplied only with hand basins and pitchers, to the great advantage of the atmosphere of the room, which seems in time to acquire an unpleasant flavor from plumbing situated in it, however well protected.

The avoidance of the network of pipes carried through the floors incident to placing set wash basins in bed rooms saves much complication and expense, and reduces the risk of freezing and leaks, so that the new system, in which bath rooms are placed in stacks, over each other, is to be commended.

Another praiseworthy fashion of the present day is that of multiplying fireplaces. Not many years ago a real fireplace was looked upon as superfluous, even in the principal rooms of a house heated by a furnace, or by hot water or steam, and many costly dwellings were provided with mantels covering false fireplaces, registers or small mirrors, while even these were dispensed with in the bed rooms. Now, the fashion of the time when furnaces were unknown has been revived, and even bed rooms are provided with real fireplaces, opening into real flues, which serve as efficient ventilators when they are not needed for any other purpose.

Obituary.

DEATH OF ALFRED WATERHOUSE.

IN the death in London last month of Alfred Waterhouse the profession has lost one of its most widely known and honored members. Born in Liverpool in 1830, he was closely identified with the rise and fall of the "Victorian Gothic" style. The list of important buildings designed by him is a long one and includes the Manchester Assize Courts, which he won in competition, structures for Balliol College, Oxford, and Caius College, Cambridge, many buildings in Manchester and Liverpool, mainly in the Gothic style; the Manchester City Hall, National History Museum, South Kensington; Liverpool University College, Pembroke College, Cambridge; Eaton Hall, Cheshire; National Liberal Club, London; Royal Infirmary, Liverpool; the Yorkshire College of Science, at Leeds, and the Hotel Metropole, Brighton. Mr. Waterhouse received the grand prize for architecture at the Paris Exhibition in 1867. He was a member of the Royal Academy of Arts, the Royal Institute of British Architects, and Royal and Imperial Academy of Venice, and of the royal academies in Brussels, Antwerp, Milan and Berlin. Victoria University gave him the degree of LL. D. in 1895. His estate at Yattendon Court, Berks, comprised about 700 acres. It is pleasant to observe that with all the practical activities demanded by his extensive practice, he found time to cultivate his artistic tastes; and his landscapes in oil and water color and sketches were well regarded. His public spirit was indicated by his interest in the "Society for Checking the Abuses of Public Advertising," of which he was president.

ASPHALTUM AND ITS USES*—Continued.

BY C. S JACKSON

The matter spoken of as using asphalt for mortar as mentioned in connection with the ancient part of the industry has been demonstrated in this country in 1893, in the construction of a large dam in Arizona on the Gila River, some ninety miles east of Yuma and ten miles north of the Southern Pacific Railroad. The dam was a very large one, some 1,500 feet in length, 125 feet wide at the base, fifty feet high and twenty-four feet across the top. Plan of same can be seen at the present time. Portland cement cost delivered on the work about $7 per barrel, making it almost prohibitory. The experiment was tried of laying up masonry in the core of the dam with asphalt. This proved so successful that the entire work was finished with same, with the exception of the facing. The mortar was prepared by mixing heated sand and asphalt together of the proper consistency, and the masons using an ordinary trowel in their work.

The chief engineer in charge, a very eminent one, by the way, Mr. John F. Ward, of New York City, was somewhat skeptical as regards the results of using asphalt as a mortar and required a great many tests to be made with the material versus cement. In other words, he would order a block of stone work built up comprised of various sized stone, one block in cement mortar and one in asphalt mortar, they being placed with one and one-half inch space in between the finished blocks. Allowing the cement finished block to stand from seven to fourteen and twenty-one days in order to give it time to set and note the result, a blast would be placed between the two blocks with explosives consisting of black powder, dynamite, giant powder, etc., and same ignited and result of explosion recorded. In every instance the cement block of masonry would be completely shattered and almost every identical piece of stone would be separated from its fellow and the mortar; while the asphalt mortar block would be overturned and only partially rended, showing the great resistance of the material.

*A paper read before the Chicago Architects' Business Association, May 12, 1905.

After many of these demonstrations had been made, the engineer was thoroughly satisfied and the work progressed.

The question of resistance of asphaltum being brought up, demonstrations to this end can be mentioned. In Government fortification work around the city of San Francisco, asphaltum is largely used in covering emplacements, magazines, batteries, etc. There was formerly a great deal of trouble through leakage of roofs over magazines; in some cases the thickness of cement over the roof being some eighteen feet. To effectually remedy this trouble, it was decided to make a test of asphaltum some twelve years ago, and the result was so satisfactory that it has been used continuously ever since in the final covering.

When the first 12-inch rifle was mounted at the Presidio, the apron extending out and under the gun was composed of some twenty-four inches of cement concrete, with a covering of four inches of asphalt mixed with sand. The charge of the gun consisted of some 800 pounds of brown powder. After several tests in firing, the officer in charge, being of the engineering corps, and wishing to test the resistance of asphaltum, ordered the gun depressed some seven degrees, which brought the muzzle very close to the surface of the asphalt apron. After the discharge an examination was made showing a depression of some four inches in the center and with a diameter of nearly fourteen feet, while there was not a crack found in the covering, but when the officer ordered that a piece of the asphalt covering be removed, it was found that the entire body of concrete was badly shattered.

Thus it is shown the virtue of asphalt in fortification work doing away with the danger of splinters, etc., account of concussion, and being shattered by shot coming in contact with same.

The result of the experiment with the 12-inch rifle inspired the engineer corps to have further tests and experiments made. About this time the Kraag-Jorgensen rifles, with which the army is now supplied, were then being given to the infantry. As some of you are probably aware, the velocity of the bullet from these guns is tremendous. The calibre is about 30, while of the penetration it is hard to conceive the extent.

One of these bullets fired at a range of fifty yards is said to easily penetrate sixty pine boards, each one inch in thickness, set back to back. The bullets will also penetrate twenty-four inches of loose sand. In connection with the experiment spoken of above, a block of asphaltum was constructed of sand and asphalt, being about sixteen inches square and thirty inches long. After being allowed to stand for twenty-four hours to thoroughly cool, it was set on end, a detail of soldiers brought up and the range marked off to thirty yards. After repeatedly firing into the block and noting the penetration, it was found that the maximum penetration was but two and one-fourth inches. The guns were then tested, being fired into the blank wall of a cement concrete constructed magazine that had been built many years, and on examination it was found that the penetration was as great as in the asphalt and sand block, while the walls were badly shattered, and in the asphalt block the surface was not disturbed except by a clean round opening of the exact size of the bullet.

This is a matter of record made by Capt. Joseph E. Kuhn, corps of engineers, United States army, and at the present time a member of a commission consisting of four officers sent over to Japan to watch the maneuvers and results in connection with the present war.

The matter of roofing in connection with the asphalt industry is an important one. It has been thoroughly well demonstrated and probably would be admitted by any of you gentlemen present, that there is no material superior for this purpose. It is an established fact that asphaltum is entirely unaffected by the action of the elements, and in fact is the only material which will successfully withstand their ravages.

While I will admit that other materials in their natural state, as well as the various compounds now on the market, give fair results, I do not believe that in the end they will any of them compare favorably with high grade asphaltum.

In the earlier manufacture of what is termed "ready roofing," in other words, being rolls of this matter and in other shape, being ready to immediately lay on the roof without any extraordinary or ordinary preparation, coal tar was used almost exclusively. Later some asphalt was used, while at the present time there is practically little or no coal tar used in this connection, being replaced altogether by asphalt.

The question naturally arises, why is this? There certainly must exist some satisfactory reason. The art of manufacturing ready roofing has reached a high degree of perfection, and can largely be attributed to the merits of the material the manufacturers are using.

For ordinary felt and gravel roofing, the use of asphaltum can not be excelled by other products, and it is doubtful if there is an equal to it. The principal drawback heretofore in the use of this material has been the excessive cost over coal tar, compounds, etc., as well as some of the various brands of artificial asphalt.

Owing to the methods now employed in the production of asphaltum, the price has been very greatly reduced and practically brought to favorable comparison with other material used in the same line.

During the life of the asphalt industry the bulk of material came from foreign countries. For mastic work it is imported from Germany, Hungary, France, etc., while for street paving purposes it is brought into this country from Turkey, British West India Islands, namely, Island Trinidad, South American State of Venezuela, and the island of Cuba.

The asphaltum formerly produced in the United States was by mining, much as coal is mined, in the States of California and Utah. The deposits in the latter State being small and inconsiderable, while in the former State they exist in large quantities. The formation of asphalt in California is caused by the seepage of asphaltic base oils through clay, sand and fine mineral earth deposits, which has been going on for ages and then gradually drying out, by which the volatile matter was eliminated and leaving a deposit which was termed asphaltum, existing in purity ranging from 40 to 60 per cent. This material was mined, being brought to the surface and then again subjected to heat, after being mixed with a liquid asphalt produced in the distillation of crude asphaltic base oil.

The result being termed refined asphaltum, which was barreled and shipped east and elsewhere to the consumer. This material was somewhat difficult to manipulate on account of the non-purity and not always being

uniform in purity and consistency, being extremely difficult to refine and bring to the exact condition of perfection. This process, of course, was expensive, occasioned by the method employed as well as by the low grade of the material. By the time the product arrived in the East, it being transported some 2,500 miles overland, the cost price was almost prohibitory in the ordinary lines of industry.

Asphaltum has not been produced in this way commercially in California for the past five years; at the present time being the result of the careful and modern methods employed in distilling asphaltic base oil. As you are probably aware, the oil is found in great quantities in California, and enough asphaltum can easily be obtained from same to supply the demands of the entire world.

The oil in its crude state carrying on an average of at least 30 per cent asphaltum, and in refining, the various products found in the oil are, gasoline, illuminating oil, lubricating oil, asphaltum, etc. The material is much safer for the consumer to use, being absolutely pure, with only a trace of 1 per cent of any sediment or debris contained in same, and can be of any consistency to meet the various requirements of commerce.

The consumer runs no risk whatever in manipulation, as he can depend on uniformity and quality of the material throughout. The product is well adapted for all uses in any way that asphaltum can be used, and the result is, the reduction of at least 45 per cent to the consumer in the last five years.

The question arises as regards cost of crude oil in California, and the possible chance of the supply diminishing in future years. The cost of oil at the present time is very low, in some cases as low as fifteen cents per barrel of forty-two gallons, which is the standard of trade in the country. This price, though, is exceptionally low, and I presume that the price would be nearer twenty-five cents.

As to the future output, I can state that the physical conditions of the State have been thoroughly gone over and examined. Within the past few months, one of the most eminent oil engineers of the world was brought into the State from Russia by a prominent firm with the idea of determining the advisability of making very large contracts outside of California, namely, in British Columbia, Hawaiian Islands, etc., for the delivery of crude oil for fuel purposes. The engineer in question spent some four months in tests and examinations in order to arrive at a conclusion. His report was, that on the lands owned and controlled by the party expecting to consummate the business in question, there was sufficient oil in sight to meet the present and future requirements involved in the contract spoken of, to last at least for one hundred years. The territory embraced in question was small and cuts a very small figure in the State industry, though in this particular property mentioned, the parties own one tract embracing 77,000 acres, on which one well was struck in October last and it has been flowing 10,000 barrels per day, with a very large proportion of the oil going to waste, the company being unable to control or provide sufficient storage to take care of same.

Owing to the existing conditions, the price of asphaltum is at present at such a point that it can successfully compete with coal tar and other materials in the way of cost results in various forms of construction, especially in roofing. [To be continued.]

ARTISTIC HARDWARE.*

Until about twenty years ago no real attempt had been made to give any artistic character to the metal work used in the buildings of the United States, or, indeed, to any other metal work whatever.

The cast iron stoves were often crowned or incrusted with what the makers of them imagined to be ornaments, but nothing could be cruder, more inappropriate or, to an educated taste, more offensive than these applications.

They were even cruder than the British product of the same period, and it was doubtless the crudity of this product that led Ruskin to say that "no ornaments are so cold, clumsy and vulgar, so essentially incapable of a fine line or graceful shadow, as those of cast iron."

ABOUT 1870.

As we shall see, the critic spoke, as he has so often done, in his haste, and transferred the intractibility of the material to what was really the incompetency of those who had undertaken to handle it for any purpose but that of strict utility. Cast iron, setting aside its liability to oxidation, is as available a material, as "capable of a fine line or graceful shadow" as cast bronze, and as available, not alone for purposes of ornament, but, as Russian founders have shown, even for figure sculpture. Forty or even thirty years ago the American who was sufficiently cultivated to be revolted by the false pretense of art in the metal fittings of his house, had no resource but to deny himself any pretense of art, and to take refuge in an absolute simplicity, which was only the absence but not the negation of the artistic element. In costly houses the hinge plates and door knobs and escutcheons showed plain surfaces of metal, of which the utmost pretension was to be silvered when they were applied to the solid mahogany doors of the period. In the less conspicuous rooms the knobs and their roses were of brass, or still oftener of smooth white porcelain. The effect was not in the least artistic, but it was highly respectable. Meanwhile it was the cheaper work which was known to the trade and to the public as "fancy." In this it was attempted to make up for the lack of evidently costly material by the addition of the ornament. This was not art, for the reason that, as has been well said, "art is something done by an artist."

This ornament was designed by the patternmakers, who were entirely untutored, either in the principles or in the historical examples of ornamental design. They were as incapable of conventionalizing natural forms with due regard to the purpose of the design and the material of which, and the processes by which, it was to be executed, as they were ignorant of the distinguishing features of historical styles. Their work, accordingly, could be neither pure nor peaceable, and could have none but a degrading effect upon the taste of those who had its results continually before their eyes. It is only "something done by an artist" that can educate the public taste to demanding something better than is supplied to it, and in this department there were no artists at home, and no examples imported from abroad and so exhibited as to have any educational effect upon manufacturers or purchasers. Up to 1870, it may be said almost without reservation, there was no choice for the purchaser of hardware except between work which was simply unrelated to the sense of beauty and work which was revolting to it.

ABOUT 1872.

In order to see what the state of things was, it is necessary to resort to illustration. It is unnecessary to reproduce any of

*Written at the author's suggestion by the well known architectural critic, Mr. Montgomery Schuyler, of New York, and reproduced by permission from "A History of Architecture in New York," 1898.

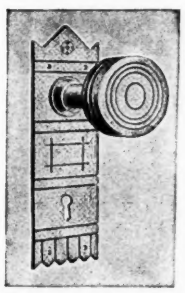
*An article forming part of "A Treatise on Locks and Builders' Hardware," by Henry R. Towne, president of the Yale & Towne Manufacturing Company, and past president of the American Society of Mechanical Engineers. John Wiley & Sons, publishers. Price, $3.00. It is the intention of the publishers of the Inland Architect to publish other selections from this work. The book is profusely illustrated and contains more than 1,100 pages, 4x6½ inches.

the plain, unpretentious and inoffensive work, for the reason that there is nothing in it to illustrate, and also for the reason that it continues to be made and to enjoy a considerable vogue. There are cultivated, but timid, persons who desire to be on the safe side and who are conscious that entire simplicity is safe. They know that it is inoffensive, and that what used to be the "fancy" articles submitted to them in this line are abominable, and they are unaware that positively artistic and attractive work is to be had. If the choice were still between work negatively inoffensive and work positively repulsive, they would be quite right. It would be a mistake to suppose that such work has been altogether expelled. In some very recent trade catalogues "fancy" hardware, as crude as that of 1870, continues to be offered, and to be offered at high prices, and obviously it would not continue to be offered if it did not continue to be demanded.

ABOUT 1875.

Again, there are architects who, although they can scarcely help being aware that there is now a choice between what is inoffensive and what is attractive, as well as between what is inoffensive and what is repulsive, do not take advantage of their knowledge and are still content to be "safe."

Although the crude and unconsciously grotesque "fancy hardware" of the last generation continues to be made, it is no longer familiar to those who would be likely to be offended by it. Some typical examples are accordingly presented, culled for the most part from old trade catalogues, but some also, as will be seen, almost as bad as the worst, from catalogues found almost within the present decade. It will be seen from the illustrations that these attempts were as irrational as they were inartistic, and that the most suitable and convenient forms which were adhered to in the common commercial work were abandoned in the fancy work for forms that were practically inconvenient. Rather, their irrationality was a part of their ugliness. A great critic has said, "A thing has style when it has the expression appropriate to its uses," and this expression, though it may be heightened by modeling and decoration, can not be attained at all unless the object has, in the first place, the form appropriate to its uses.



ABOUT 1876.
"EASTLAKE."

It was in 1872 that the first definite promise of better things was made. It consisted in the employment of a trained designer, in the first place, to rationalize, and, in the second place, to decorate, the forms which had been in the first place distorted, and in the second defaced.

[To be continued.]

COMPETITION, COOK COUNTY COURT HOUSE, CHICAGO.

REPORT OF JURY OF AWARDS.

YOUR special committee on new court house beg leave to report that they have received the report of the "advisory committee to act as judges of the competition and to recommend the award of prizes for the best designs for the new court house," which said report is as follows:

CHICAGO, August 25, 1905.

To the Special Committee on the New Court House, of the Board of Commissioners of Cook County:

Gentlemen—Your advisory committee received at your hands on the 16th of August thirteen sets of designs and plans for a court house for Cook County, with instructions to select three from among them as deserving the first, second and third prizes.

After a careful and detailed examination of all these drawings we are unanimously of opinion that the design and plan marked by the commissioners with the number thirteen present, as they stand, the best combination of plan and elevation, although some of the others offer more convenient plans, and others present, in our judgment, more satisfactory elevations. We accordingly recommend the design and plan numbered thirteen for the first prize of $5,000.

We find that the design and plan numbered six has similar merits, although this also is not entirely satisfactory in respect either of elevation or of plan. We recommend it for the second prize of $2,500.

We find that the design numbered one presents the most attractive exterior of any, an excellence which goes far to make up for some undesirable features of its plan. We present it accordingly for the third prize of $1,000.

We find, however, that the drawings numbered five and six offer more convenient interior arrangements of plan than any of the others, although the accompanying elevation of number five seems to us to be better adapted to a building occupied by private offices than to one occupied by public offices.

We therefore recommend that, inasmuch as the design numbered one presents the most attractive exterior and the plans numbered five and six the most convenient interiors, the commissioners entrust the work to the authors of one of these two designs, conjointly with the author of number one, making such arrangements as to the share of each in the work as shall be acceptable to them and to the county commissioners.

Respectfully submitted, John G. Shedd, William R. Ware, David B. Jones, William McLaren, John M. Ewen, chairman.

Your committee would recommend that the portion of the report relating to the awarding of the three prizes be adopted and the prizes allowed accordingly, as follows:

First prize, $5,000—Design No. 13, Barnett, Haynes & Barnett.

Second prize, $2,500—Design No. 6, Holabird & Roche.

Third prize, $1,000—Design No. 1, Shepley, Rutan & Coolidge.

After a careful investigation of all the plans, and it appearing to your committee that design No. 6, prepared by Holabird & Roche, is better adapted to the needs of Cook County than any other presented, we recommend that said design be accepted, subject to such changes as may be necessary, and Holabird & Roche selected as the architects of the new court house, providing satisfactory arrangements be made with them.

The following list shows the names of firms of the competing architects, as ascertained upon opening the numbered envelopes accompanying the designs:

No. 1. Shepley, Rutan & Coolidge, Boston and Chicago.
No. 2. German & Lignell, Duluth, Minn.
No. 3. Henry Lord Gay, Chicago.
No. 4. P. J. Weber and M. J. Morehouse, Chicago.
No. 5. Huehl & Schmid, Chicago.
No. 6. Holabird & Roche, Chicago.
No. 7. Frost & Granger, Chicago.
No. 8. James Gamble Rogers, Chicago.
No. 9. Herbert C. Shivers, St. Louis.
No. 10. William H. Pruyn Jr. & Co., Chicago.
No. 11. J. J. Flanders, Chicago.
No. 12. Jarvis Hunt, Chicago.
No. 13. Barnett, Haynes & Barnett, St. Louis and Chicago.

Section 2. Your committee would also report that they have received a communication from the Municipal Museum of Chicago, asking that they be permitted to exhibit all of the designs for the new court house in their rooms in the Chicago Public Library.

We recommend that permission be granted, provided the several architects who competed give their consent and sufficient space is allowed for the proper exhibit of the plans, in the judgment of the superintendent of public service, so they can be inspected by members of the Board of County Commissioners and the public.

Respectfully submitted,

SPECIAL COMMITTEE ON NEW COURT HOUSE,
By EDWARD J. BRUNDAGE, *Chairman.*

Moved by Commissioner Garner that the report of the special committee on new court house be adopted.

Carried.

Resolution by Commissioner Walker:

WHEREAS, The judges of the designs and plans submitted by architects in the competition for the new court house have completed their work and made their report to this board;

Resolved, That the County Board hereby extends to the

said judges, to-wit, Mr. John G. Shedd, as proxy for Mr. Harry G. Selfridge; Prof. William Robert Ware, Mr. William McLaren, Mr. David B. Jones and Mr. John M. Ewen, its thanks for the great care they have shown and the arduous work they have performed in arriving at and making recommendations to this board;

Resolved, That the name of the Hon Graeme Stewart, whose death this board has already memorialized, be included in all records of the services of the judges of award;

Resolved, That this board hereby expresses special gratitude to the citizen members of the award commission for the public-spirited manner in which they have given their time and their judgment without money compensation from the county.

Moved by Commissioner Walker the adoption of the resolution. Carried.

Moved by Commissioner Kopf that the comptroller be directed to draw his warrant upon the county treasurer for bill No. 3261, payable to William R. Ware, amounting to $1,639.45, without awaiting the approval of the minutes. Carried.

THE ILLINOIS CHAPTER A. I. A.

THE annual dinner and regular meeting for the election of officers of the Illinois Chapter of the American Institute of Architects, the first meeting after the summer vacation, was held at the Art Institute the evening of September 11th. In the absence from the city of President S. S. Beman, the chair was filled by Irving K. Pond, first vice-president. The annual reports were read. During the year there has been a revision of the constitution and by-laws, and recently a satisfactory arrangement has been made for permanent quarters of the chapter at the Art Institute. The treasurer's report showed a substantial surplus on hand. A committee, consisting of Architects W. W. Clay, George Beaumont and W. C. Zimmerman, was appointed on nominations for officers of the chapter, to report at the next meeting.

NEW RESTRICTIONS ON MAILING CHUTES.

THE originators of the mailing chute system introduced a service which has become so popular that it is safe to state that no desirable tenant would now locate in a building not furnished with this equipment. The mailing chute is an important subject with owners and architects, and proper provision must be made for the system in the planning of buildings which must conform rigidly to the postal laws and regulations. Recent changes in these regulations are shown in the following excerpts from an order of the postmaster general:

"Mailing chutes and receiving boxes may be placed, subject to the approval of the postmaster, in public buildings, railroad stations, hotels of not less than five stories in height, business or office buildings of not less than four stories in height, and apartment houses comprising not less than fifty residential apartments. Buildings in which receiving boxes are or shall be located shall be open to the general public, without restriction, at all times during the hours prescribed for mail collections, in order to afford access to such receiving boxes for the deposit of mail matter therein.

"No receiving box with which a mailing chute is connected shall be placed more than fifty feet from the main entrance of the building in which located, and if in the judgment of the postmaster the efficient handling of the mails requires the placing of such box nearer to such entrance, it shall be so placed, and at such point as he may direct. No receiving box shall be placed elsewhere than on the ground floor of any building. * * * In no case shall a mailing chute be placed behind an elevator screen or partition, or run through any part of a building to which the public is denied access. * * * The cubic contents of each such box shall be determined by the postmaster. The floor of the interior of the box, or cushion if one be used, shall be level with the threshhold of the door, and the bottom of the door shall be in no case less than thirty (30) inches from the floor level of the building. The distance from the exterior of the bottom of the box (including all ornamentation) to the floor level of the building shall be not less than twenty (20) inches, and this space shall be entirely open and unobstructed. * * *

"All repairs, changes and alterations to mailing chutes and receiving boxes shall be made by and at the expense of the owner or lessee of the building in which they are situated, under the supervision and subject to the approval of the postmaster. * * *

"Authority to permit the installation of mailing chutes and receiving boxes conforming to these regulations is vested exclusively in the postmaster. To him shall be submitted the contract and specifications for any proposed chute and box, with a plan of the building showing the contemplated location therein of the whole of such chute and of the box connected therewith."

COMPETITION FOR THE PEACE PALACE.

SOME $15,000, divided into five prizes, and the honor of being the architect who will plan the Peace Palace for use of the Permanent Court of Arbitration at The Hague, are offered to the architects of all nations in a prospectus issued by the Carnegie Foundation. The invitation was made to secure the ideas of many minds as to the most fitting edifice in which to house the tribunal which, it is hoped, will make war unnecessary.

The five most successful architects will receive prizes, the largest of which is for 12,000 guilders, a sum of money slightly less than $5,000. In addition to the open offer to the world the directors of the Carnegie Foundation, which will become the owner of the five prize plans, has also issued a special invitation to selected architects from each of the principal countries of the world, requesting them to join the competition. The names of these men have not yet been made public.

The palace contemplated in the announcement is divided into two parts, one a courthouse for the Permanent Court of Arbitration and the other a library, to contain about 200,000 volumes. The total cost is to be 1,600,000 guilders, which is about $640,000.

Regulations for the competition allow seven months from the present date for full completion of architectural drawings. Copies of the rules and conditions of the contest will be issued at the New York office of the Netherlands consul.

The jury which will award the prizes is composed of architects, one each from America, Holland, England, France and Germany.

OUR ILLUSTRATIONS.

Competition designs for Cook County Court House, Chicago. First prize design, submitted by Barnett, Haynes & Barnett, architects, St. Louis; second prize design, submitted by Holabird & Roche, architects, Chicago; third prize design, submitted by Shepley, Rutan & Coolidge, architects.

Office Building for Chicago & Northwestern Railway Company, Chicago, Frost & Granger, architects. The general exterior view and detail view of entrance are shown.

Selections from Fifth Exhibition of Brooklyn Chapter, A. I. A.: Sketch House at "Little Orchard Farm," Wilson Eyre, architect; Church, Fairmount, N. Y., Gillespie & Carrel, architects, New York; House, Quoque, L. I., Wilson Eyre, architect; House, Pelham Manor, N. Y., Little & O'Connor, architects; Episcopal Church, Bay Ridge, Brooklyn, Cram, Goodhue & Ferguson, architects.

Buildings, International Exposition, Liege, Belgium: Palace of Beaux Arts; Palace of Fetes; Palace of Tunis; Monumental Entrance and Connecting Buildings.

Hoffmann Apartment Building, Chicago, Turnock & Ohrenstein, architects.

Row of Residences, Chicago, Mann, MacNeille & Lindeberg, architects, New York and Chicago.

Building for the Automobile Club of America, New York, Ernest Flagg, architect. Perspective, elevation and plans.

The Patrick Henry School, Chicago, design by the architect of the Board of Education.

Stable for E. H. Thompson, Kansas City, Mo., Albert Turney, architect.

View in Hall, Residence of Mr. Hasterlik, Chicago, H. L. Newhouse, architect.

Screen Between Music Room and Conservatory, residence of M. A. Norton, Chicago, H. L. Newhouse, architect.

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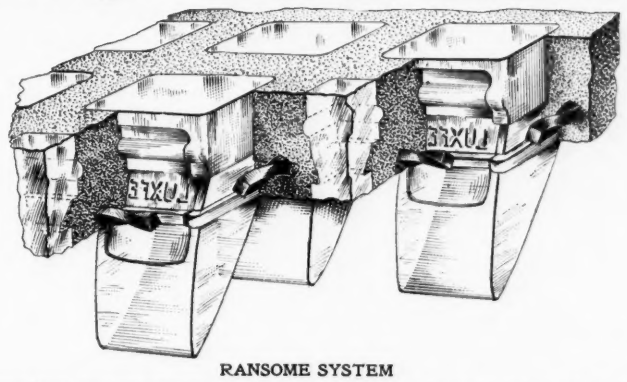

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Lake Shore and New York Central

Lv Chicago 2:30 pm Central Time
Ar New York 9:30 am Eastern Time

Lv New York 3:30 pm Eastern Time
Ar Chicago 8:30 am Central Time

L. F. VOSBURGH
General Western Passenger Agent
CHICAGO

THE
CUTLER MAILING SYSTEM

AS INSTALLED IN THE
TRINITY BUILDING -
FRANCIS H. KIMBALL, ARCHT.

CONSISTS OF TWO SPECIAL CAST BRONZE MAIL BOXES AND TWO CHUTES EQUIPPED WITH LOCKING MAILING OPENINGS DIVIDING THE MAIL UNDER NORMAL CONDITIONS AND PERMITTING CLEANING OR REPAIRS WITHOUT INTERRUPTION TO THE MAIL SERVICE.

WHERE A STANDARD AUTHORIZED MAIL CHUTE EQUIPMENT IS DESIRED THE CUTLER MAILING SYSTEM SHOULD BE SPECIFIED BY NAME.

INSTALLED IN CONNECTION WITH THE U. S. FREE COLLECTION SERVICE ONLY BY THE SOLE MAKERS

THE CUTLER MANUFACTURING CO.
CUTLER BUILDINGS, ROCHESTER, NEW YORK.

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SPOT CORD

Costs Less and Wears
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SEND FOR SAMPLES, TESTS, ETC.

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SPAR COATING

A perfect finish for exterior woodwork

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BECAUSE IT IS THOROUGHLY PRACTICAL, AND WILL LAST MANY YEARS, WITH FAIR CARE, OFTEN AS LONG AS THE VERY BUILDING ON WHICH IT IS PLACED.

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WARRANTED TO WEAR NOT LESS THAN

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20 Years

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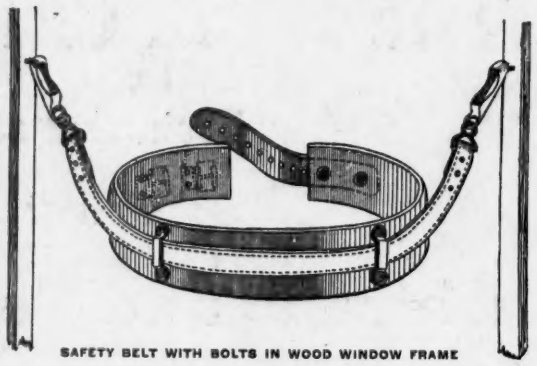

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